Operation & Safety Manual

Keep this manual with machine at all times.

Model 544D-10

S/N 0160003969 & After
including 0160003856

31200172

Revised
January 14, 2009

An Oshkosh Corporation Company

CALIFORNIA PROPOSITION 65

BATTERY WARNING

Battery posts, terminals and related accessories contain lead and lead compounds, chemical known to the State of California to cause cancer and reproductive harm.

WASH HANDS AFTER HANDLING!

CALIFORNIA PROPOSITION 65

EXHAUST WARNING

Diesel Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

REVISION LOG

January 8, 2007 - A - Original Issue of Manual

November 25, 2008 - B - Revised covers and pages c, 2-3, 2-4, 3-4, 3-9, 3-10, 3-11, 7-8 and Transfer of Ownership.

January 14, 2009 - C - Revised manual.

This manual is a very important tool! Keep it with the machine at all times.

The purpose of this manual is to provide owners, users, operators, lessors, and lessees with the precautions and operating procedures essential for the safe and proper machine operation for its intended purpose.

Due to continuous product improvements, JLG Industries, Inc. reserves the right to make specification changes without prior notification. Contact JLG Industries, Inc. for updated information.

Operator Qualifications

The operator of the machine must not operate the machine until this manual has been read, training is accomplished and operation of the machine has been completed under the supervision of an experienced and qualified operator. Operation within the U.S.A. requires training per OSHA 1910.178.

Operators of this equipment must possess a valid, applicable driver's license, be in good physical and mental condition, have normal reflexes and reaction time, good vision and depth perception and normal hearing. Operator must not be using medication which could impair abilities nor be under the influence of alcohol or any other intoxicant during the work shift.

In addition, the operator must read, understand and comply with instructions contained in the following material furnished with the telehandler:

- This Operation & Safety Manual
- Telehandler Safety Manual (as required)
- All instructional decals and plates
- Any optional equipment instructions furnished

The operator must also read, understand and comply with all applicable Employer, Industry and Governmental rules, standards and regulations.

Modifications

Any modification to this machine must be approved by JLG.

This product must comply with all safety related bulletins. Contact JLG Industries, Inc. or the local authorized JLG representative for information regarding safety-related bulletins which may have been issued for this product.

JLG Industries, Inc. sends safety related bulletins to the owner of record of this machine. Contact JLG Industries, Inc. to ensure that the current owner records are updated and accurate.

JLG Industries, Inc. must be notified immediately in all instances where JLG products have been involved in an accident involving bodily injury or death of personnel or when damage has occurred to personal property or the JLG product.

FOR:

- Accident Reporting and Product Safety Publications
- Current Owner Updates
- Questions Regarding Product Applications and Safety
- Standards and Regulations Compliance Information
- Questions Regarding Product Modifications

CONTACT:

Product Safety and Reliability Department
JLG Industries, Inc.
13224 Fountainhead Plaza
Hagerstown, MD 21742
USA

or Your Local JLG Office
(Addresses on back cover)

In USA
Toll Free: 1-877-JLG-SAFE (1-877-554-7233)

Outside USA
Phone: +1-717-485-6591

E-mail
ProductSafety@JLG.com

Other Publications Available

Service Manual.....31200170

Illustrated Parts Manual.....91364001

Note: *The following standards may be referenced in this manual:*
ANSI is compliant to ANSI/ITSDF B56.6
AUS is compliant to AS 1418.19
CE is compliant to EN1459
Refer to the machine Serial Number Plate to identify the applicable compliance standard.

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SECTION 1 - GENERAL SAFETY PRACTICES

1.1 HAZARD CLASSIFICATION SYSTEM

Safety Alert System and Safety Signal Words

OW0010

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

OW0021

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

OW0031

CAUTION indicates a potentiality hazardous situation which, if not avoided, may result in minor or moderate injury.

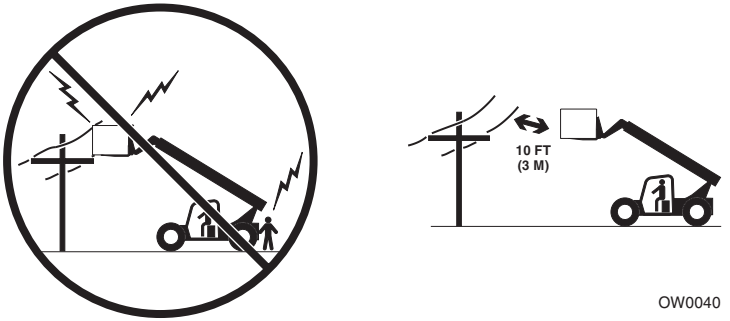
1.2 GENERAL PRECAUTIONS

WARNING

Before operation, read and understand this manual. Failure to comply with the safety precautions listed in this manual could result in machine damage, property damage, personal injury or death.

1.3 OPERATION SAFETY

Electrical Hazards

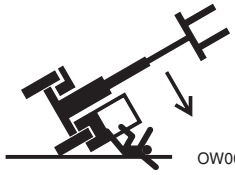


- This machine is not insulated and does not provide protection from contact or being near electrical current.
- **NEVER** operate the telehandler in an area where overhead power lines, overhead or underground cables, or other power sources may exist without ensuring the appropriate power or utility company de-energizes the lines.
- Always check for power lines before raising the boom.
- Follow employer, local and governmental regulations for clearance from powerlines.

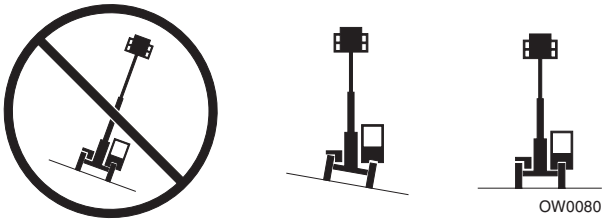
Tip Over Hazard

General

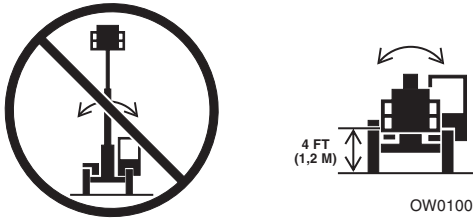
- For additional load requirements, refer to the appropriate capacity chart.



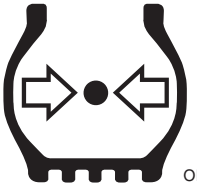
- Never use an attachment without the appropriate JLG approved capacity chart installed on the telehandler.
- Understand how to properly use the capacity charts located in cab.
- **DO NOT** exceed rated lift capacity.
- Be sure that the ground conditions are able to support the machine.



- **DO NOT** raise boom unless frame is level (0 degrees), unless otherwise noted on capacity chart.



- **DO NOT** level machine with boom/attachment above 4 ft (1,2 m).
  (AUS - **DO NOT** level machine with load more than 11.8 in (300 mm) above ground surface.)


OH2291

- **MAINTAIN proper tire pressure** at all times. If proper tire pressures are not maintained, this machine could tip over.
- Refer to manufacturer's specifications for proper fill ratio and pressure requirements for tires equipped with ballast.

OH20911

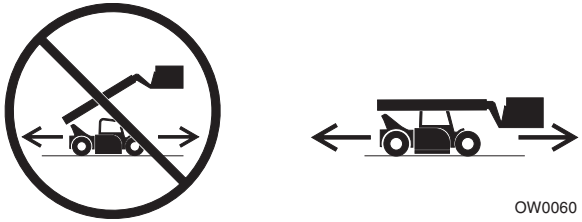
- Always wear the seat belt.
- Keep head, arms, hands, legs and all other body parts inside operator's cab at all times.

OH2221

If the telehandler starts to tip over:

- **DO NOT** JUMP
- BRACE YOURSELF and STAY WITH THE MACHINE
- KEEP YOUR SEAT BELT FASTENED
- HOLD ON FIRMLY
- LEAN AWAY FROM THE POINT OF IMPACT

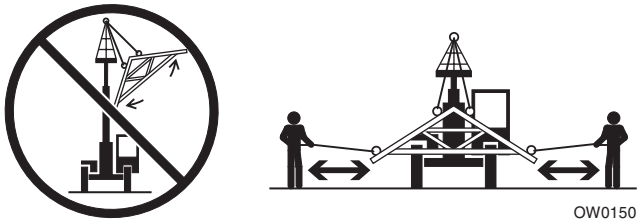
Non-Suspended Load



OW0060

- **DO NOT** drive with boom raised.

Suspended Load

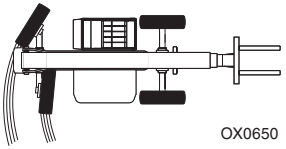


OW0150

- Tether suspended loads to restrict movement.
- **DO NOT** raise the load more than 11.8 in (300 mm) above ground surface or the boom more than 45°.
- Weight of all rigging (slings, etc.) must be included as part of load.
- Start, travel, turn and stop slowly to prevent load from swinging.
- When driving with the boom raised, **DO NOT** exceed walking speed.
- Beware of wind. Wind can cause a suspended load to swing and cause dangerous side loads - even with tag lines.
- **DO NOT** attempt to use telehandler frame-leveling to compensate for load swing.
- Keep heavy part of load closest to attachment.
- Never drag the load; lift vertically.

Travel Hazard

PIVOT STEER



- Steering characteristics differ between steer modes. Identify the steer mode settings of the telehandler being operated.
- Ensure that adequate clearance is provided between both rear tail swing and front fork swing.
- Look out for and avoid other personnel, machinery and vehicles in the area. Use a spotter if you DO NOT have a clear view.
- Before moving be sure of a clear path and sound horn.
- When driving, retract boom and keep boom/attachment as low as possible while maintaining visibility of mirrors and maximum visibility of path of travel.
- Always look in the direction of travel.
- Always check boom clearances carefully before driving underneath overhead obstructions. Position attachment/load to clear obstacles.
- When driving in high speed, use only front wheel steer (if steering modes are selectable).

Load Falling Hazard

OW0130

- Never suspend load from forks or other parts of carriage.
- **DO NOT** burn or drill holes in fork(s).
- Forks must be centered under load and spaced apart as far as possible.

Lifting Personnel

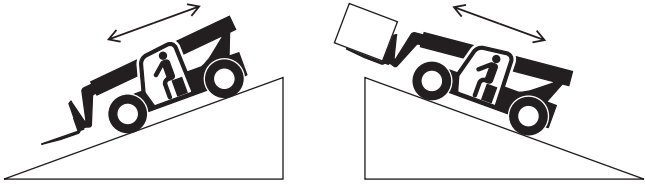
OW0170

- When lifting personnel, **USE ONLY** a JLG approved personnel work platform, with proper capacity chart displayed in the cab.

OW0190

- **DO NOT** drive machine from cab when personnel are in platform.

Driving Hazards on Slopes

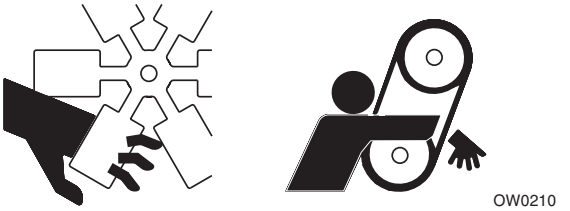


To maintain sufficient traction and braking capabilities, travel on slopes as follows:

- When unloaded, the rear of the machine is the “heavy end.” Drive with forks pointed downhill.
- When loaded, the front of the machine is the “heavy end.” Drive with the forks pointed uphill.
- For additional travel requirements, refer to the appropriate capacity chart.
- To avoid overspeeding the engine and drivetrain when driving down slopes, downshift to a lower gear and use the service brake as necessary to maintain a slow speed. **DO NOT shift into neutral and coast downhill**.
- Avoid excessively steep slopes or unstable surfaces. To avoid tip over **DO NOT** drive across excessively steep slopes under *any* circumstances.
- Avoid turning on a slope. Never engage “inching” or shift to “Neutral” when going downhill.
- **DO NOT** park on a slope.

Pinch Points and Crush Hazards

Stay clear of pinch points and rotating parts on the telehandler.



OW0210

- Stay clear of moving parts while engine is running.

OW0220

- Keep clear of steering tires and frame or other objects.

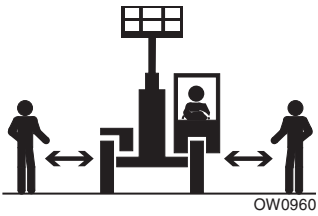
OW0230

- Keep clear from under boom.

- Keep clear of boom holes.

- Keep arms and hands clear of attachment tilt cylinder.

- Keep hands and fingers clear of carriage and forks.



- Keep others away while operating.

Fall Hazard

OW0280

- Enter using the proper hand holds and steps provided. Always maintain 3-point contact when mounting or dismounting. Never grab control levers or steering wheel when mounting or dismounting the machine.
- **DO NOT** get off the machine until the shutdown procedure on page 4-4 has been performed.

OW0290

- **DO NOT** carry riders. Riders could fall off machine causing death or serious injury.

Chemical Hazards

Exhaust Fumes

- **DO NOT** operate machine in an enclosed area without proper ventilation.
- **DO NOT** operate the machine in hazardous environments unless approved for that purpose by JLG and site owner. Sparks from the electrical system and the engine exhaust can cause an explosion.
- If spark arrestors are required, ensure they are in place and in good working order.

Flammable Fuel

OW0300

- **DO NOT** fill the fuel tank or service the fuel system near an open flame, sparks or smoking materials. Engine fuel is flammable and can cause a fire and/or explosion.

Hydraulic Fluid

OW0950

- **DO NOT** attempt to repair or tighten any hydraulic hoses or fittings while the engine is running or when the hydraulic system is under pressure.
- Stop engine and relieve trapped pressure. Fluid in the hydraulic system is under enough pressure that it can penetrate the skin.
- **DO NOT** use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks. Wear gloves to protect hands from spraying fluid.

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SECTION 2 - PRE-OPERATION AND INSPECTION

2.1 PRE-OPERATION CHECK AND INSPECTION

Note: *Complete all required maintenance before operating unit.*

⚠ WARNING

FALL HAZARD. Use extreme caution when checking items beyond your normal reach. Use an approved ladder.

The pre-operation check and inspection, performed at beginning of each work shift or at each change of operator, should include the following:

1. **Cleanliness** - Check all surfaces for leakage (oil, fuel or battery fluid) or foreign objects. Report any leakage to the proper maintenance personnel.
2. **Structure** - Inspect the machine structure for dents, damage, weld or parent metal cracks or other discrepancies.

PARENT METAL CRACK **WELD CRACK**

3. **Safety Decals** - Ensure all safety decals are legible and in place. Clean or replace as required. See page 2-3 for details.
4. **Operation and Safety Manuals** - Operation & Safety Manual and AEM Safety Manual (as required) are located in cab manual holder.
5. **Walk-Around Inspection** - See page 2-6 for details.
6. **Fluid Levels** - Check fluids, including fuel, hydraulic oil, engine oil and coolant. When adding fluids, refer to Section 7 - Lubrication and Maintenance and Section 9 - Specifications to determine proper type and intervals. Before removing filler caps or fill plugs, wipe all dirt and grease away from the ports. If dirt enters these ports, it can severely reduce component life.
7. **Attachments/Accessories** - Ensure correct capacity charts are installed on the telehandler. If provided, reference the Operation & Safety Manual of each attachment or accessory installed for specific inspection, operation and maintenance instructions.

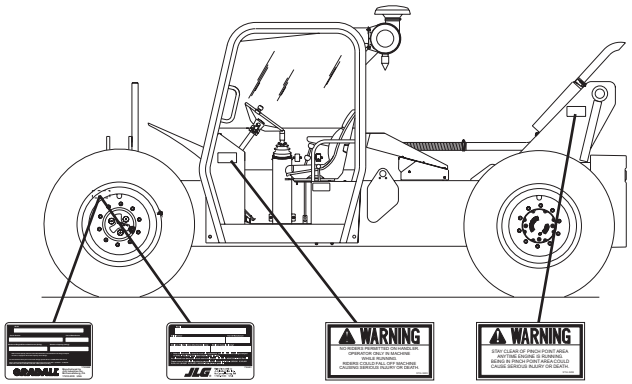
8. **Operational Check** - Once the walk-around inspection is complete, perform a warm-up and operational check (see page 2-8) of all systems in an area free of overhead and ground level obstructions. See Section 3 - Controls and Indicators for more specific operating instructions.

⚠ WARNING

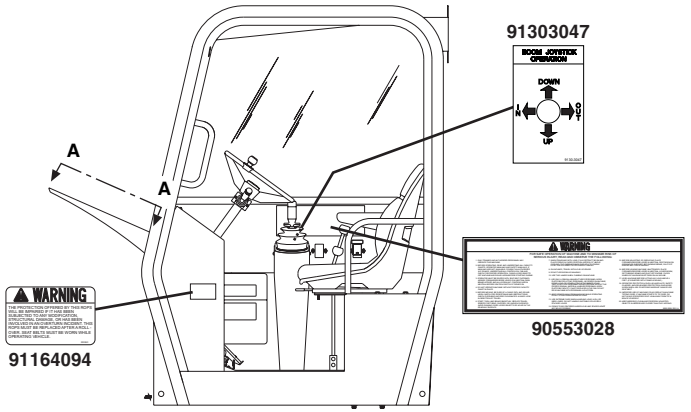
If telehandler does not operate properly, immediately bring machine to a stop, lower boom and attachment to ground and stop the engine. Determine cause and correct before continued use.

2.2 SAFETY DECALS

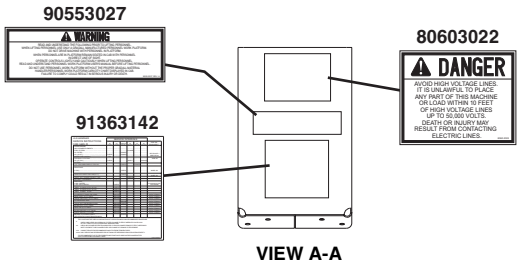
Ensure all **DANGER**, **WARNING**, **CAUTION** and instructional decals and proper capacity charts are legible and in place. Clean and replace as required.



1705882 (S/N 0160003969 thru 0160035922) **1705881 (S/N 0160036260 & After)** **91143283** **91143282**



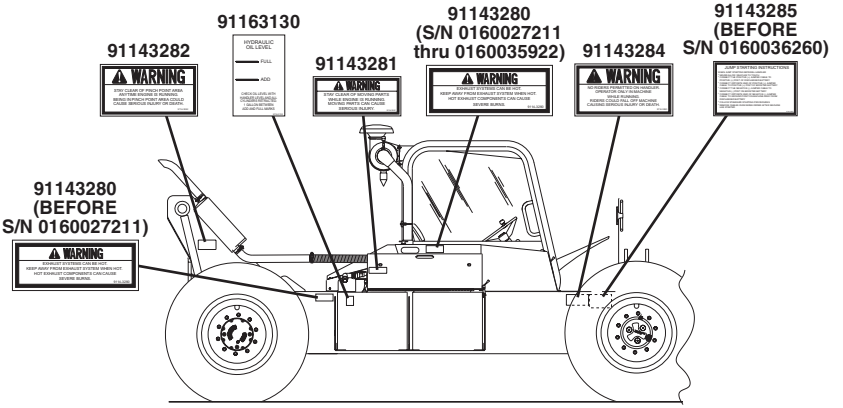
91303047 **91164094** **90553028**

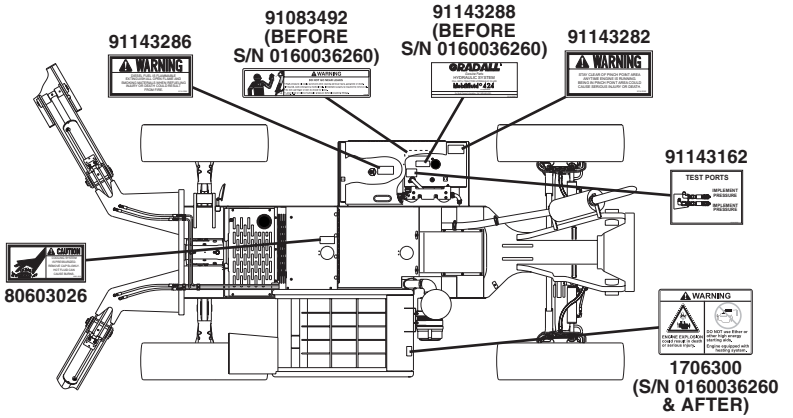


90553027 **80603022** **91363142**

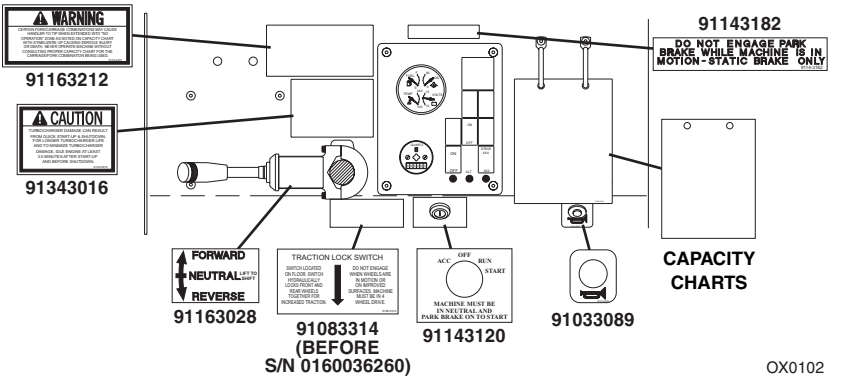
OX0780

VIEW A-A





VIEW OF CAB DASH



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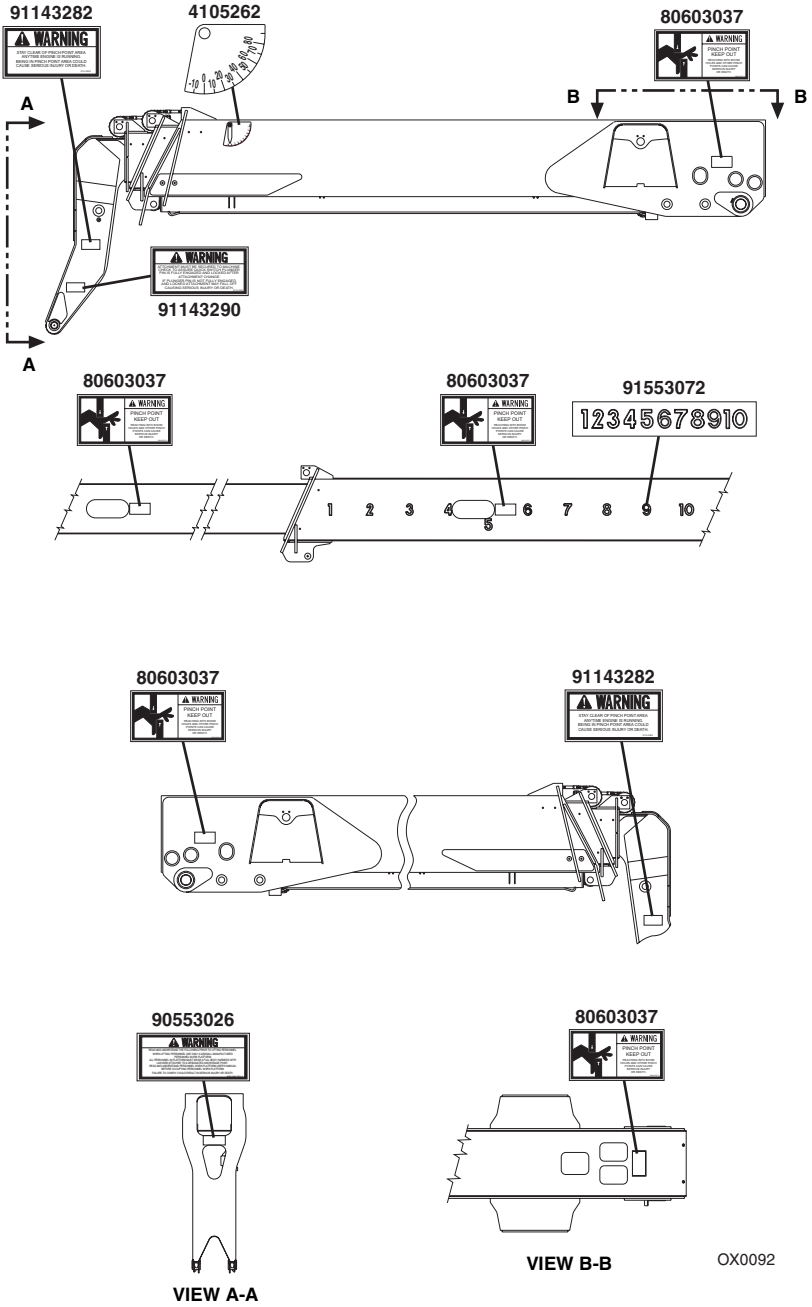
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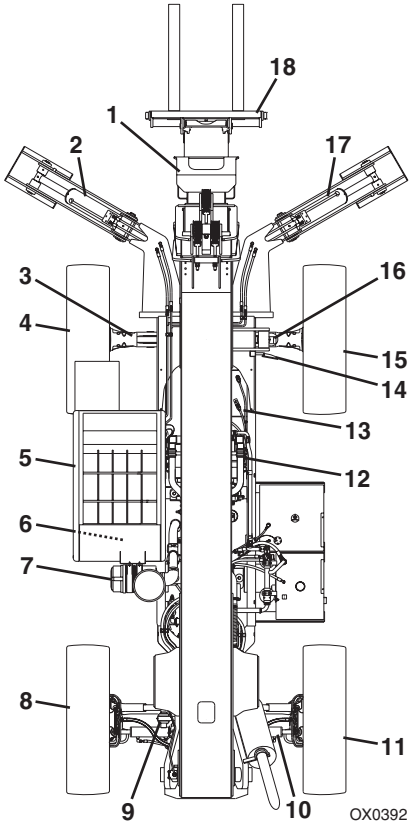
2.3 WALK-AROUND INSPECTION



Begin your walk-around inspection at item 1, as noted below. Continue to your right (counterclockwise when viewed from top) checking each item in sequence.

INSPECTION NOTE: On all components, make sure there are no loose or missing parts, that they are securely fastened and no visible leaks or excessive wear exists in addition to any other criteria mentioned. Inspect all structural members including attachment for cracks, excessive corrosion and other damage.

1. Boom Sections and Lift, Tilt, Extend/Retract, Compensating (Slave) Cylinders -
   - Check front, top, side and rear wear pads for presence of grease.
   - Pivot pins secure; hydraulic hoses undamaged, not leaking.
2. Left Outrigger - Pins secure; hydraulic hoses and cylinder undamaged, not leaking.
3. Front Axle - Pivot pins secure; hydraulic hoses undamaged, not leaking.

4. Wheel/Tire Assembly - Properly inflated and secured; no loose or missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies.
5. Cab and Electrical -
   - General appearance; no visible damage.
   - Frame level indicator and window glass undamaged and clean.
   - Gauges, switches, joysticks, foot controls and horn operational.
   - Emergency escape hammer in place (enclosed cab only).
   - Check seat belt for damage, replace belt if frayed or cut webbing, damaged buckles or loose mounting hardware.
6. Main Control Valve - See Inspection Note.
7. Air Cleaner - Air cleaner element condition indicator, check for clogged condition. Replace element as required.
8. Wheel/Tire Assembly - Properly inflated and secured; no loose or missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies.
9. Stabilizer Cylinder - Pins secure; hydraulic hoses undamaged, not leaking.
10. Rear Axle - Steer cylinders undamaged, not leaking; pivot pins secure; hydraulic hoses undamaged, not leaking.
11. Wheel/Tire Assembly - Properly inflated and secured; no loose or missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies.
12. Engine Compartment -
    - Drive belts, check condition and replace as required.
    - Engine mounts - See inspection note.
    - Engine cover properly secured.
13. Battery - Cables tight, no visible damage or corrosion. Cover properly secured.
14. Mirror - Clean and undamaged.
15. Wheel/Tire Assembly - Properly inflated and secured; no loose or missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies.
16. Frame Level Cylinder - Pins secure; hydraulic hoses undamaged, not leaking.
17. Right Outrigger - Pins secure; hydraulic hoses and cylinder undamaged, not leaking.
18. Attachment - Properly installed, See *"Attachment Installation"* on page 5-11.

2.4 WARM-UP AND OPERATIONAL CHECKS

Warm-Up Check

During warm-up period, check:

1. Heater, defroster and windshield wiper (if equipped).
2. Check all lighting systems (if equipped) for proper operation.
3. Voltmeter should show 13.5 to 14 volts.
4. Adjust mirror(s) for maximum visibility.

⚠ WARNING

CUT/CRUSH/BURN HAZARD. Keep engine cover closed while engine is running except when checking hydraulic filter condition indicator.

Operational Check

When engine warms, perform an operational check:

1. Service brake and parking brake operation.
2. Forward and reverse travel.
3. Steering in both directions with engine at low idle.
4. Horn and back-up alarm. Must be audible from inside operators cab with engine running.
5. All joystick functions - operate smoothly and correctly.
6. Perform any additional checks described in Section 8.
7. Hydraulic filter condition indicator.

2.5 OPERATOR CAB

The telehandler is equipped with an open or enclosed ROPS/FOPS cab.

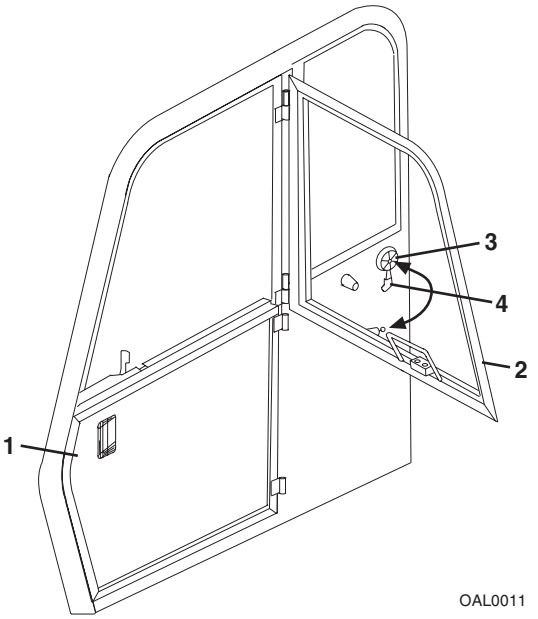
⚠ WARNING

Never operate telehandler unless the overhead guard and cab structure are in good condition. Any modification to this machine must be approved by JLG to assure compliance with ROPS/FOPS certification for this cab/machine configuration. If damaged, the **CAB CANNOT BE REPAIRED**. It must be **REPLACED**.

2.6 WINDOWS

Keep all windows and mirrors clean and unobstructed.

Cab Door Window (if equipped)



- Cab door (**1**) must be closed during operation.
- During operation the cab door window (**2**) must either be latched open or closed.
- Open the cab door window and secure it in the latch (**3**).
- Press latch release button inside the cab or pull on lever (**4**) outside the cab to unlatch the window.

SECTION 3 - CONTROLS AND INDICATORS

3.1 GENERAL

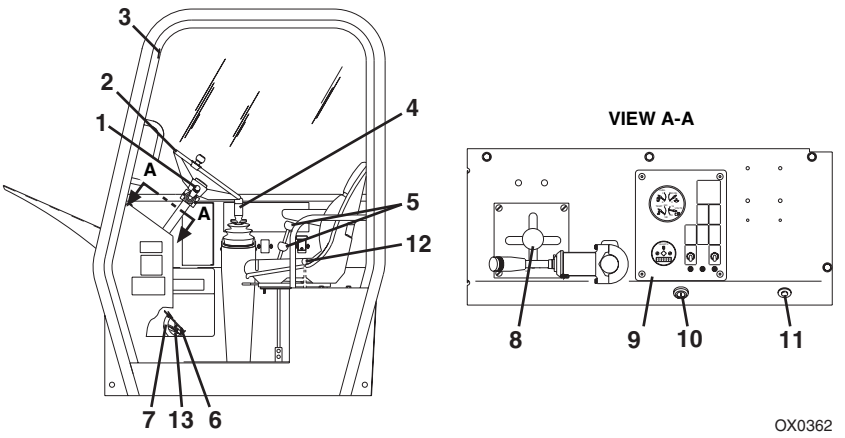
This section provides the necessary information needed to understand control functions.

Note: *The manufacturer has no direct control over machine application and operation. The user and operator are responsible for conforming with good safety practices.*

NOTICE

EQUIPMENT DAMAGE. When a red light illuminates, immediately bring machine to a stop, lower boom and attachment to ground and stop the engine. Determine cause and correct before continued use.

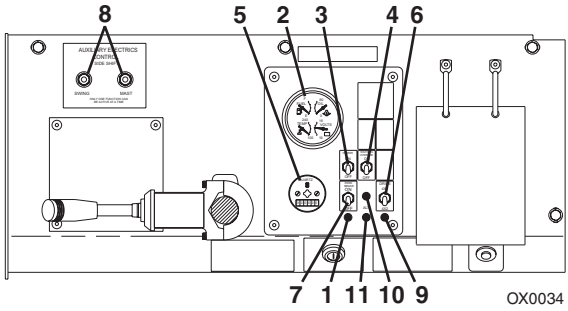
3.2 CONTROLS



1. Transmission Control Lever: See page 3-7.
2. Steering Wheel: Turning the steering wheel to the left or right steers the machine in the corresponding direction.
3. Frame Level Indicator: Enables the operator to determine the left to right level condition of the telehandler.
4. Boom Joystick: See page 3-8.
5. Right Hand Levers (if equipped): See page 3-9.
6. Accelerator Pedal: Pressing down the pedal increases engine and hydraulic speed.
7. Service Brake/Inching Travel Pedal: Operates service brakes on front axle. Permits slow travel speed while engine speed is kept high for other telehandler functions. The further the pedal is depressed, the slower the travel speed.
8. Left Hand Lever (if equipped): See page 3-11.
9. Instrument Panel: See page 3-3.
10. Ignition Switch: Key activated. See page 3-5.
11. Horn Button: Depress to sound horn.
12. Outrigger Levers: See page 3-10.
13. Traction-Lock Pedal: Pedal operates traction-lock. With machine in four-wheel drive mode, depress and hold down to restore traction when a wheel spins.

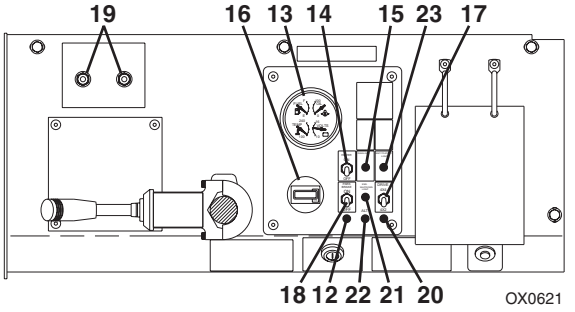
Dash Controls and Indicators

John Deere Engine



1. Park Brake Indicator: See page 3-6 for details.
2. 4-in-1 Gauge:
   a. Engine Coolant Temperature Gauge
   b. Engine Oil Pressure Gauge
   c. Fuel Gauge
   d. Voltmeter indicates alternator output and battery condition.
3. Heater Switch (if equipped): See page 3-12 for details.
4. Shutdown Override Switch: Depress and release to delay engine shutdown for 30 seconds. The switch resets the shutdown timer to 30 seconds and may be used repeatedly.
   Switch also used to retrieve engine fault codes. See Service Manual for details.
5. Hourmeter: Indicates total time of engine operation in hours and tenths of hours.
6. 4x2/4x4 Switch: Engages and disengages rear wheel drive motors. Rear drive motors are engaged for four wheel drive.
7. Park Brake Switch: See page 3-6 for details.
8. Auxiliary Electrics Switches (if equipped): Enables functions of attachments that require auxiliary electrics. See Section 5 - Attachments for approved attachments and control instructions.
9. 4x4 Indicator: Illuminates when four-wheel drive is engaged. The indicator will not illuminate when park brake is applied.
10. Check Engine Indicator: Illuminates for 30 seconds before engine shuts down when a “Shutdown” fault is detected.
    Indicator also flashes engine fault codes. See Service Manual for details.
11. Alternator Indicator: Illuminates when alternator is not charging.

Cummins Engine



12. Park Brake Indicator: See page 3-6 for details.

13. 4-in-1 Gauge:

e. Engine Coolant Temperature Gauge

f. Engine Oil Pressure Gauge

g. Fuel Gauge

h. Voltmeter indicates alternator output and battery condition.

14. Heater Switch (if equipped): See page 3-12 for details.

15. Diagnostic Indicator: Illuminates when diagnostic system detects an engine fault.

16. Hourmeter: Indicates total time of engine operation in hours and tenths of hours.

17. 4x2/4x4 Switch: Engages and disengages rear wheel drive motors. Rear drive motors are engaged for four wheel drive.

18. Park Brake Switch: See page 3-6 for details.

19. Auxiliary Electrics Switches (if equipped): Enables functions of attachments that require auxiliary electrics. See Section 5 - Attachments for approved attachments and control instructions.

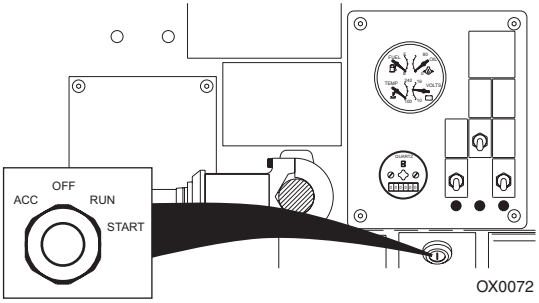
20. 4x4 Indicator: Illuminates when four-wheel drive is engaged. The indicator will not illuminate when park brake is applied.

21. Engine Shutdown Indicator: Illuminates to indicate an engine fault and/or a parameter is outside the acceptable range. Engine may derate and shutdown.

22. Alternator Indicator: Illuminates when alternator is not charging.

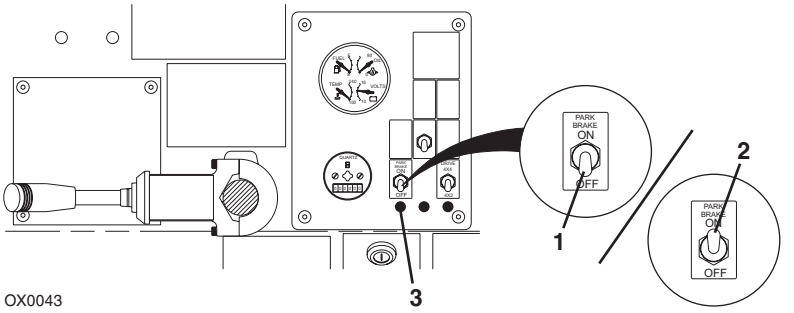
23. Preheat Indicator: Illuminates with ignition in “RUN” position. Light goes out when start temperature is reached. At temperatures below 32°F (0°C), do not start until engine is preheated.

Ignition



- In "ACC" or "RUN" position, voltage is available for all electrical functions.
- Full clockwise rotation to "START" engages starter motor.
- Counter-clockwise rotation to "OFF" stops engine and removes voltage from all electrical functions.

Park Brake



Park brake switch controls the application and release of the park brake. Indicator light (**3**) illuminates to indicate brake is applied.

- With the engine running and the park brake switch in "OFF" position (**1**), park brakes are disengaged.
- With switch in "ON" position (**2**), park brake is engaged and transmission will not engage forward or reverse.

⚠ WARNING

MACHINE ROLL-AWAY HAZARD. Always move park brake switch to "ON" position, lower boom to ground and stop engine before leaving cab.

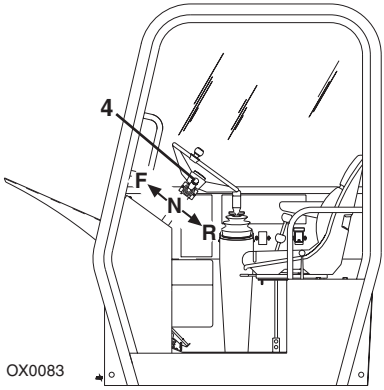
⚠ WARNING

CRUSH HAZARD. Turning engine off applies the park brake. Applying park brake or turning engine off while traveling will cause unit to stop abruptly and could cause load loss. Either may be used in an emergency situation.

Parking Procedure

1. Using service brake, stop telehandler in an appropriate parking area.
2. Follow *"Shut-Down Procedure"* on page 4-4.

Transmission Control Lever



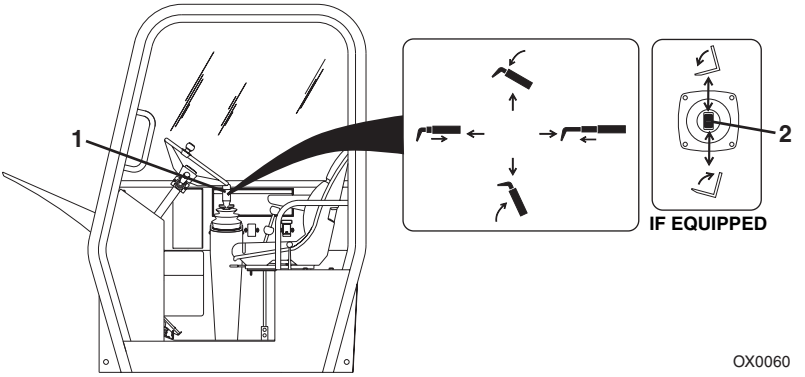
Transmission control lever (**4**) engages forward or reverse travel.

- Lift and push lever forward for forward travel; lift and pull lever rearward for reverse travel. Move lever to centered position for neutral.
- When traveling in reverse, the back-up alarm will automatically sound.
- Drive in reverse and turn only at slow rates of speed.
- Do not increase engine speed with the transmission in forward or reverse and the service brake depressed in an attempt to get quicker hydraulic performances. This could cause unexpected machine movement.

⚠ WARNING

TIP OVER/CRUSH HAZARD. Bring telehandler to a complete stop before shifting transmission control lever. A sudden change in direction of travel could reduce stability and/or cause load to shift or fall.

Boom Joystick



The boom joystick (**1**) controls the boom and attachment tilt (if equipped) functions.

Boom Functions

- Move the joystick back to lift boom; move joystick forward to lower boom; move joystick right to extend boom; move joystick left to retract boom.
- The speed of boom functions depends upon the amount of joystick travel in corresponding direction. Increasing engine speed will also increase function speed.
- For two simultaneous boom functions, move the joystick between quadrants. For example; moving the joystick forward and to the left will lower and retract boom simultaneously.

Attachment Tilt (if equipped)

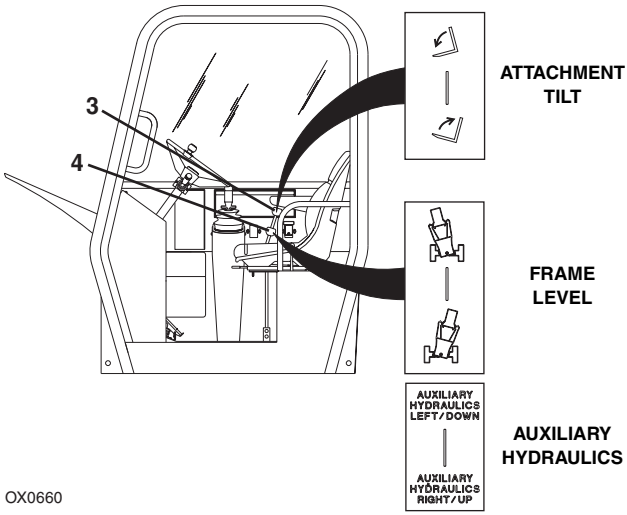
Tilt control is actuated by the switch (**2**).

- Depress the rear of the switch to tilt up; depress the front of switch to tilt down.

⚠ WARNING

TIP OVER/CRUSH HAZARD. Rapid, jerky operation of controls will cause rapid, jerky movement of the load. Such movements could cause the load to shift or fall or could cause the machine to tip over.

Right Hand Levers (if equipped)



The right hand levers control attachment tilt, frame level or auxiliary hydraulics.

Attachment Tilt (if equipped)

The attachment tilt lever (**3**) controls attachment tilt.

- Move lever forward to tilt down; move lever back to tilt up.

Frame Level (if equipped)

The frame level lever (**4**) controls the left to right frame level.

- Move lever forward to rotate frame left, move lever back to rotate frame right.
- A level indicator is located above the front cab window to permit operator to determine whether the telehandler frame is level.

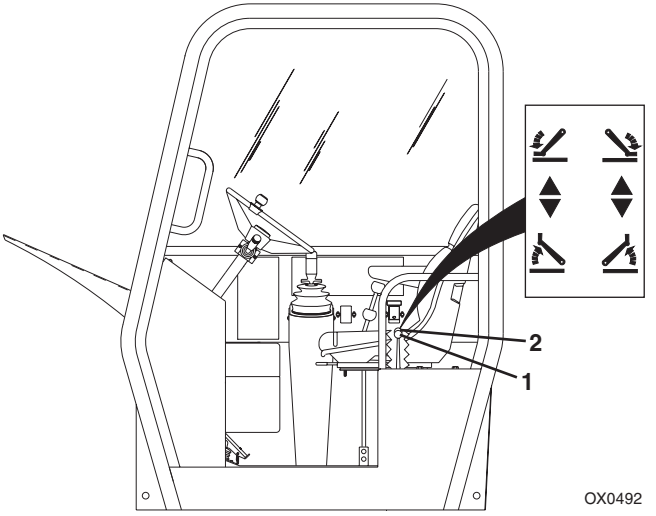
⚠ WARNING

TIP OVER HAZARD. Always move boom as low as possible while allowing for best visibility of right hand mirror before leveling frame. Attempting to level machine with boom raised could cause it to tip over.

Auxiliary Hydraulics (if equipped)

- The auxiliary hydraulics lever (**4**) controls function of attachments that require hydraulic supply for operation. See Section 5 - Attachments for approved attachments and control instructions.

Outrigger Levers



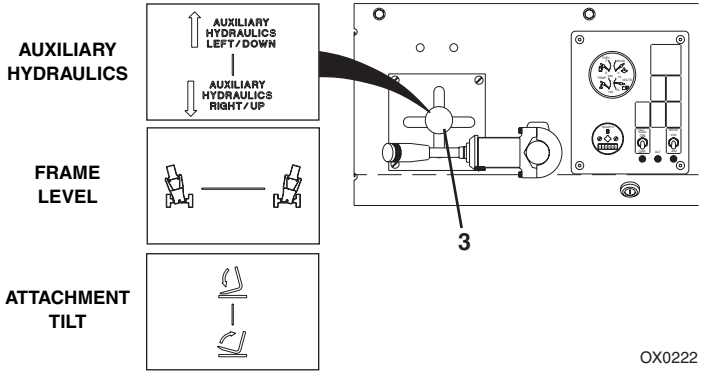
The rear levers (**1 & 2**) control the outriggers.

- The left lever controls the left outrigger and the right lever controls the right outrigger.
- Push levers forward to lower outriggers; push levers back to raise outriggers.
- Use outriggers to increase stability and/or load capacity and in leveling the telehandler. Study capacity charts to determine maximum load capacities, with and without outriggers.

⚠ WARNING

TIP OVER HAZARD. Outriggers increase stability and load capacity only if they are used properly. Using outriggers on soft surfaces could cause telehandler to tip over. Always ensure surface can support telehandler and load.

Left Hand Lever (if equipped)



The left hand lever (**3**) controls auxiliary hydraulics, frame level, or attachment tilt.

Auxiliary Hydraulics (if equipped)

- Controls function of attachments that require hydraulic supply for operation. See Section 5 - Attachments for approved attachments and control instructions.

Frame Level (if equipped)

- Move lever left to rotate frame left, move lever right to rotate frame right.
- A level indicator is located in the upper front window frame to permit operator to determine whether the telehandler frame is level.

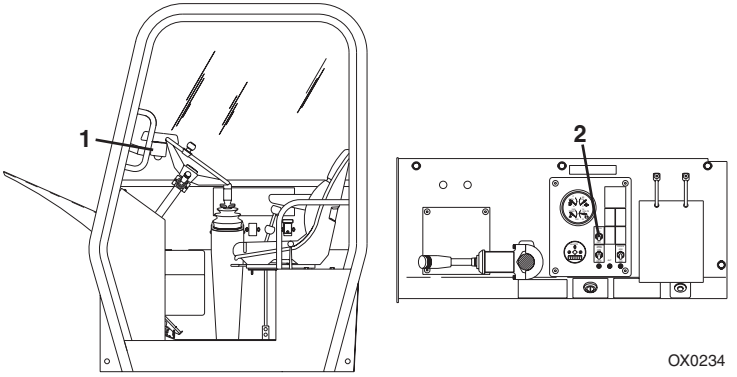
⚠ WARNING

TIP OVER HAZARD. Always move boom as low as possible while allowing for best visibility of right hand mirror before leveling frame. Attempting to level machine with boom raised could cause it to tip over.

Attachment Tilt (if equipped)

- Move joystick up to tilt down; move joystick down to tilt up.

Heater (if equipped)



1. Defroster Fan: Two speed fan. Press fan switch down for slow speed; press switch up for fast speed. Return switch to middle position to turn off.

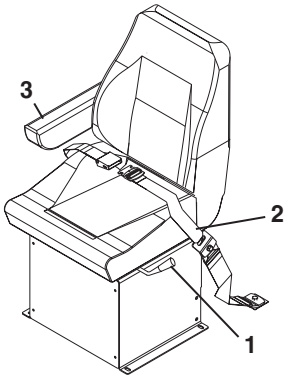
2. Heater Fan Switch: On/Off switch.

3.3 OPERATOR SEAT

Adjustments

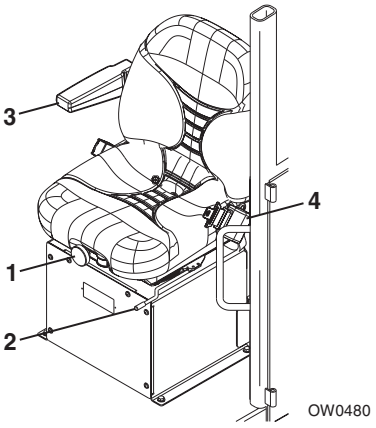
Prior to starting engine adjust seat for position and comfort.

Before S/N 0160016097



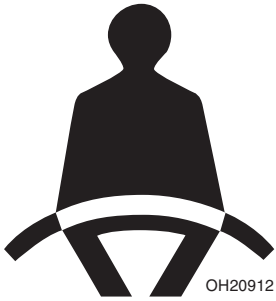
1. Fore/Aft: Pull up on handle to move seat fore and aft.
2. Seat Belt: Always fasten seat belt during operation. If required, a 3 in (76 mm) seat belt is available.
3. Arm Rest: Arm rest can be moved up or down for comfort.

S/N 0160016097 & After



1. Suspension: Use knob to adjust suspension to the appropriate setting. Turn clockwise to increase stiffness. Turn counterclockwise to reduce stiffness.
2. Fore/Aft: Pull up on handle to move seat fore and aft.
3. Arm Rest: Arm rest can be moved up or down for comfort.
4. Seat Belt: Always fasten seat belt during operation. If required, a 3 in (76 mm) seat belt is available.

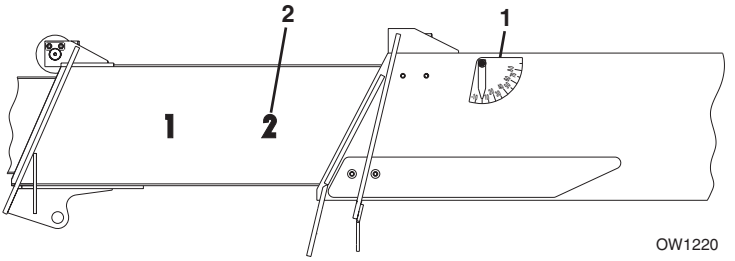
Seat Belt



Fasten seat belt as follows:

1. Grasp both free ends of the belt making certain that belt webbing is not twisted or entangled.
2. With back straight in the seat, couple the retractable end (male end) of the belt into the receptacle (buckle) end of the belt.
3. With belt buckle positioned as low on the body as possible, pull the retractable end of the belt away from the buckle until it is tight across the lap.
4. To release belt latch, depress red button on the buckle and pull free end from buckle.

3.4 BOOM ANGLE AND EXTENSION INDICATORS



- The boom angle indicator (**1**) is located on the left side of the boom. Use this indicator to determine the boom angle when using the capacity chart (see *"Use of the Capacity Chart"* on page 5-4).
- Boom extension indicators (**2**) are located on the left side of the boom. Use these indicators to determine boom extension when using the capacity chart (see *"Use of the Capacity Chart"* on page 5-4).

SECTION 4 - OPERATION

4.1 ENGINE

Starting the Engine

This machine can be operated under normal conditions in temperatures of 0°F to 104°F (-20°C to 40°C). Consult JLG for operation outside this range or under abnormal conditions.

1. Make sure all controls are in “Neutral” and all electrical components (lights, heater, defroster, etc.) are turned off. Set parking brake.
2. If equipped with Cummins engine and the temperature is below 32° F (0° C), turn the ignition switch to “RUN”. Wait until the preheat indicator light goes out.
3. Turn ignition switch to “START” to engage starting motor. Release key immediately when engine starts. If engine fails to start within 20 seconds, release key and allow starting motor to cool for a few minutes before trying again.
4. After engine starts, observe oil pressure gauge. If gauge remains on zero for more than ten seconds, stop engine and determine cause before restarting engine. Reference engine manual for minimum pressure at operating temperature.
5. Warm up engine at approximately 1/2 throttle.

Note: *Engine will not start unless transmission control lever is in “Neutral” and park brake switch is applied.*

⚠ WARNING

UNEXPECTED MOVEMENT HAZARD. Always ensure that transmission control lever is in neutral and the service brake is applied before releasing park brake. Releasing park brake in either forward or reverse could cause the machine to move abruptly, causing an accident.

Cold Weather Starting Aids

John Deere Engine

JLG approved starting aids employ ether. If your telehandler is equipped with an ether starting aid, the following applies:

- Injection of ether is triggered by temperature sensor located on engine.
- At start-up, temperature sensor on engine will detect if ether is needed. Follow normal start-up procedure.
- Ether will be automatically injected if needed, to keep engine running.
- A second battery is added for additional cold-cranking capacity.

WARNING

ENGINE EXPLOSION. If your telehandler is equipped with a cold start aid, do not spray additional ether into air cleaner. If machine is not equipped with cold start aid, follow instructions listed in the engine manual supplied with the telehandler.

Cummins Engine

Cummins engines are equipped with preheat for cold weather starting. Refer to *"Starting the Engine"* on page 4-1 for cold weather starting procedure.

WARNING

ENGINE EXPLOSION. Do not use ether for cold weather starting.

Battery Boosted Starting

If battery-boost starting (jump-start) is necessary, proceed as follows:

- Never allow vehicles to touch.
- Connect the positive (+) jumper cable to positive (+) post of discharged battery.
- Connect the opposite end of positive (+) jumper cable to positive (+) post of booster battery.
- Connect the negative (-) jumper cable to negative (-) post on booster battery.
- Connect opposite end of negative (-) jumper cable to ground point on machine away from discharged battery.
- Follow standard starting procedures.
- Remove cables in reverse order after machine has started.

⚠ WARNING

BATTERY EXPLOSION HAZARD. Never jump start or charge a frozen battery as it could explode. Keep sparks, flames and lighted smoking materials away from the battery. Lead acid batteries generate explosive gases when charging. Wear safety glasses.

Normal Engine Operation

- Observe instrument panel frequently to be sure all engine systems are functioning properly.
- **Be alert for unusual noises or vibration.** When an unusual condition is noticed, park machine in safe position and perform shut-down procedure. See Shut-Down Procedure. Report condition to your supervisor or maintenance personnel.
- **Avoid prolonged idling.** If the engine is not being used, turn it off.

Shut-Down Procedure

When parking the telehandler, park in a safe location on flat level ground and away from other equipment and/or traffic lanes.

1. Apply the park brake.
2. Shift the transmission to “Neutral.”
3. Lower forks or attachment to the ground.
4. Operate engine at low idle for 3 to 5 minutes. **DO NOT over rev engine.**
5. Shut off engine and remove ignition key.
6. Exit telehandler properly.
7. Block wheels (if necessary).

4.2 OPERATING WITH A NON-SUSPENDED LOAD

Lift Load Safely

- You must know the weight and load center of every load you lift. If you are not sure of the weight and load center, check with your supervisor or with the supplier of the material.

⚠ WARNING

TIP OVER HAZARD. Exceeding lift capacity of the telehandler could damage the equipment and/or cause tip over.

- Know the rated load capacities (see Section 5) of the telehandler to determine the operating range in which you can safely lift, transport and place a load.

Picking Up a Load

- Note the conditions of the terrain. Adjust travel speed and reduce amount of load if conditions warrant.
- Avoid lifting double-tiered loads.
- Make sure load is clear of any adjacent obstacles.
- Adjust spacing of forks so they engage the pallet or load at maximum width. See *"Adjusting/Moving Forks"* on page 5-15.
- Approach load slowly and squarely with fork tips straight and level. **NEVER** attempt to lift a load with just one fork.
- **NEVER** operate telehandler without a proper and legible capacity chart in the operator cab for the telehandler/attachment combination you are using.

Transporting a Load

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After engaging the load and resting it against the backrest, tilt the load back to position it for travel. Travel in accordance with the requirements set forth in Section 1 - General Safety Practices and Section 5 - Attachments.

Leveling Procedure

1. Position machine in best location to lift or place load.
2. Apply parking brake and move transmission control lever to NEUTRAL.
3. Move boom/attachment to 4 ft (1,2 m) off ground.
   (AUS - Move boom so forks are no more than 11.8 in (300 mm) above ground surface.)
4. Observe level indicator to determine whether machine must be leveled prior to lifting load. Level machine with frame level joystick (see page 3-9 or page 3-11) or if equipped, outrigger joysticks (see page 3-10).

Important things to remember:

- Never raise the boom/attachment more than 4 ft (1,2 m) above ground unless telehandler is level.
  (AUS - Never raise the forks more than 11.8 in (300 mm) above ground surface unless telehandler is level.)
- The combination of frame leveling and load could cause the telehandler to tip over.

The telehandler is designed to permit leveling the main frame 8° to left or right to compensate for uneven ground conditions.

Placing a Load

Before placing any load be sure that:

- The landing point can safely support the weight of the load.
- The landing point is level; front to back and side to side.
- Use the capacity chart to determine safe boom extension range. See *"Use of the Capacity Chart"* on page 5-4.
- Align forks at the level load is to be placed, then extend boom slowly until load is just above area where it is to be placed.
- Lower the boom until the load rests in position and the forks are free to retract.

Disengaging a Load

Once the load has been placed safely at the landing point, proceed as follows:

1. With the forks free from the weight of the load, the boom can be retracted and/or the telehandler can be backed away from under the load if surface will not change level condition of telehandler.
2. Lower the carriage.
3. The telehandler can now be driven from the landing location to continue work.

4.3 OPERATING WITH A SUSPENDED LOAD

Lift Load Safely

- You must know the weight and load center of every load you lift. If you are not sure of the weight and load center, check with your supervisor or with the supplier of the material.

⚠ WARNING

TIP OVER HAZARD. Exceeding lift capacity of the telehandler could damage the equipment and/or cause tip over.

- Know the rated load capacities (refer to Section 5) of the telehandler to determine the operating range in which you can safely lift, transport and place a load.

Picking Up a Suspended Load

- Note the conditions of the terrain. Adjust travel speed and reduce amount of load if conditions warrant.
- Avoid lifting double-tiered loads.
- Make sure load is clear of any adjacent obstacles.
- **NEVER** operate telehandler without a proper and legible capacity chart in the operator cab for the telehandler/attachment combination you are using.
- Only use approved lifting devices rated for the lifting of the load.
- Identify the proper lifting points of the load, taking into consideration the center of gravity and load stability.
- Ensure to always properly tether loads to restrict movement.
- Refer to See *"Use of the Capacity Chart"* on page 5-4. for proper lifting guidelines in addition to the appropriate capacity chart in the operator cab.

Transporting a Suspended Load

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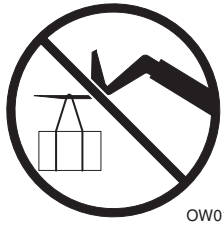

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- Travel in accordance with the requirements set forth in Section 1 - General Safety Practices and Section 5 - Attachments.
- For additional requirements, refer to the appropriate capacity chart in the operator cab.

Important things to remember:

- Ensure the boom is fully retracted.
- Never raise the load more than 11.8 in (300 mm) above ground surface or the boom more than 45°.
- The combination of frame leveling and load could cause the telehandler to tip over.
- The guide men and operator must remain in constant communication (verbal or hand) and be in visual contact with the operator at all times.
- Never place the guide men between the suspended load and the telehandler.
- Only transport the load at walking speed, 0.9 mph (0.4 m/s), or less.

Leveling Procedure

1. Position machine in best location to lift or place load.
2. Apply parking brake and move transmission control lever to NEUTRAL.
3. Move boom so load is no more than 11.8 in (300 mm) above ground surface and boom/or boom is raised no more than 45°.
4. Observe level indicator to determine whether machine must be leveled prior to lifting load. Level machine with frame level joystick (see page 3-9 or page 3-11) or if equipped, outrigger joysticks (see page 3-10).

The telehandler is designed to permit leveling the main frame 8° to left or right to compensate for uneven ground conditions.

Placing a Suspended Load

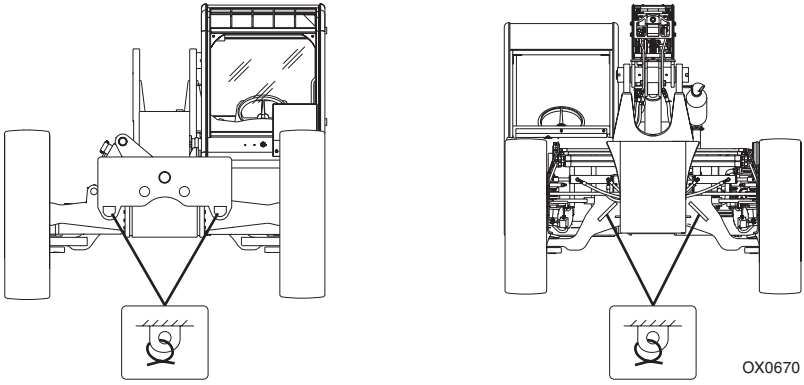
Before placing any load be sure that:

- The landing point can safely support the weight of the load.
- The landing point is level; front to back and side to side.
- Use the capacity chart to determine safe boom extension range. See *"Use of the Capacity Chart"* on page 5-4.
- Align load at the level load is to be placed, then position boom slowly until load is just above area where it is to be placed.
- Ensure that the guide men and operator remain in constant communication (verbal or hand) when placing the load.

Disengaging a Suspended Load

- Never place the guide men between the suspended load and the telehandler.
- Once at the destination of the load, ensure to bring the telehandler to a complete stop and apply the park brake prior to disengagement of the lifting devices and tethers.

4.4 LOADING AND SECURING FOR TRANSPORT



Tiedown

1. Level the telehandler prior to loading.
2. Using a spotter, load the telehandler with boom as low as possible.
3. Once loaded, apply parking brake and lower boom until boom or attachment is resting on deck. Move all controls to “Neutral,” stop engine and remove ignition key.
4. Secure machine to deck by passing chains through the designated tie down points as shown in the figure.
5. Do not tie down front of boom.

Note: *The user assumes all responsibility for choosing the proper method of transportation and tie-down devices, making sure the equipment used is capable of supporting the weight of the vehicle being transported and that all manufacturer’s instructions and warnings, regulations and safety rules of their employer, the Department of Transportation and/or any other local, state or federal/provincial laws are followed.*

⚠ WARNING

TELEHANDLER SLIDE HAZARD. Before loading telehandler for transport, make sure deck, ramps and telehandler wheels are free of mud, snow and ice. Failure to do so could cause telehandler to slide.

Lifting

- When lifting machine, it is very important that the lifting device and equipment is attached only to designated lifting points. If machine is not equipped with lifting lugs contact JLG Product Safety for information.
- Make adjustments to the lifting device and equipment to ensure the machine will be level when elevated. The machine must remain level at all times while being lifted.
- Ensure that the lifting device and equipment is adequately rated and suitable for the intended purpose. See Section 9 - Specifications for machine weight.
- Remove all loose items from machine prior to lifting.
- Lift machine with smooth, even motion. Set machine down gently. Avoid quick or sudden motions that could cause shock loads to machine and/or lifting devices.

SECTION 5 - ATTACHMENTS

5.1 APPROVED ATTACHMENTS

To determine if an attachment is approved for use on the specific telehandler you are using, perform the following prior to installation.

Before S/N 0160037689

- The attachment model/option number on the attachment identification plate must match the attachment number on a capacity chart located in the operator cab.
- The model on the capacity chart must match the model telehandler being used.
- The load center of the fork (if equipped) must match the load center as indicated on the capacity chart.
- Hydraulically powered attachments must only be used on machines equipped with auxiliary hydraulics.
- Hydraulically powered attachments that require auxiliary electrics must only be used on machines equipped with auxiliary hydraulics and electrics.

S/N 0160037689 & After

- The attachment type, weight, dimensions and load center must be equal to or less than the data shown on a capacity chart located in the operator cab.
- The model on the capacity chart must match the model telehandler being used.
- Hydraulically powered attachments must only be used on machines equipped with auxiliary hydraulics.
- Hydraulically powered attachments that require auxiliary electrics must only be used on machines equipped with auxiliary hydraulics and electrics.

If any of the above conditions are not met, do not use the attachment. The telehandler may not be equipped with the proper capacity chart or the attachment may not be approved for the model telehandler being used. Contact JLG or a local distributor for further information.

5.2 UNAPPROVED ATTACHMENTS

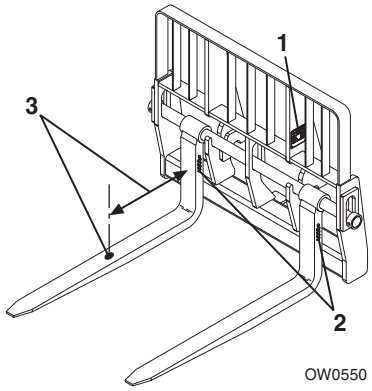
Do not use unapproved attachments for the following reasons:

- Range and capacity limitations for “will fit,” homemade, altered, or other non-approved attachments cannot be established.
- An overextended or overloaded telehandler can tip over with little or no warning and cause serious injury or death to the operator and/or those working nearby.
- The ability of a non-approved attachment to perform its intended function safely cannot be assured.

⚠ WARNING

Use only approved attachments. Attachments which have not been approved for use with your telehandler could cause machine damage or an accident.

5.3 TELEHANDLER/ATTACHMENT/FORK CAPACITY



Prior to installing the attachment verify it is approved and the telehandler is equipped with the proper capacity chart. See *"Approved Attachments"* on page 5-1.

To determine the maximum capacity of the telehandler and attachment, use the **smallest** of the following capacities:

- Capacity stamped on the attachment identification plate (**1**).
- Fork capacities and load centers are stamped on the side of each fork (**2**) (if equipped). This rating specifies the maximum load capacity that the individual fork can safely carry at the maximum load center (**3**). Total attachment capacity is multiplied by the number of forks on the attachment (if equipped), up to the maximum capacity of the attachment.
- Maximum capacity as indicated on the proper capacity chart. See *"Approved Attachments"* on page 5-1.
- When the load rating of the telehandler differs from the capacity of the forks or attachment, the lower value becomes the overall load capacity.

Use the proper capacity chart to determine maximum capacity at various machine configurations. Lifting and placing a load may require use of more than one capacity chart based on machine configuration.

Other than block forks, all forks should be used in matched pairs, block forks used in matched sets.

⚠ WARNING

Never use an attachment without the appropriate JLG approved capacity chart installed on the telehandler.

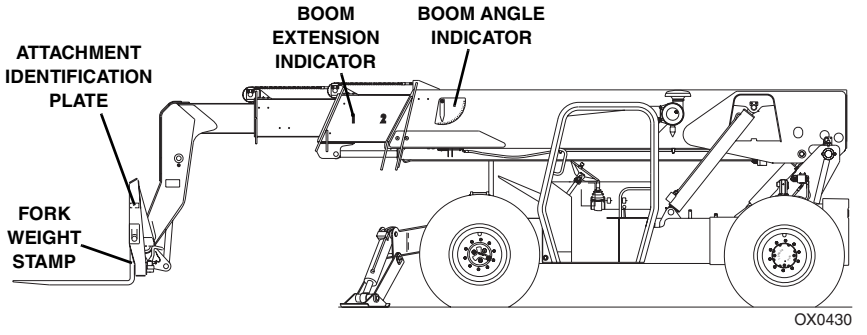
5.4 USE OF THE CAPACITY CHART

To properly use the capacity chart (see page 5-6), the operator must first determine and/or have the following:

1. An approved attachment. See *"Approved Attachments"* on page 5-1.
2. The proper Capacity Chart(s).
3. Weight of the load being lifted.
4. Load placement information:
   a. HEIGHT where the load is to be placed.
   b. DISTANCE from the front tires of the telehandler where the load is to be placed.
5. On the Capacity Chart, find the line for the height and follow it over to the distance.
6. The number in the load zone where the two cross is the maximum capacity for this lift. If the two cross at a division between zones, the smaller number must be used.

The number in the load zone must be equal to or greater than the weight of the load to be lifted. Determine the limits of the load zone on the capacity chart and keep within these limits.

Capacity Indicator Locations



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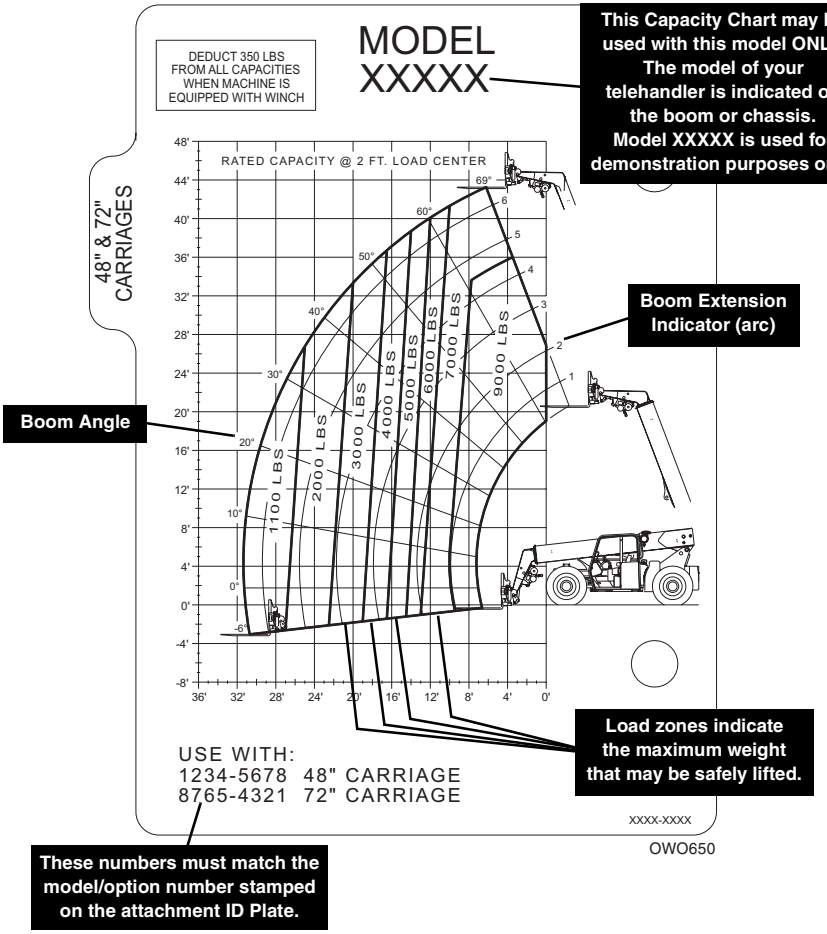
Sample Capacity Chart

Before S/N 0160037689



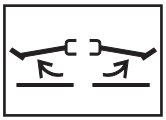
Note: *This is a sample capacity chart* ***only****!* ***DO NOT*** *use this chart, use the one located in your operator cab.*

⚠ WARNING

TIP OVER HAZARD. All loads shown on rated capacity chart are based on machine being on firm ground with frame level (see page 4-6); the forks being positioned evenly on carriage; the load being centered on forks; proper size tires being properly inflated; and the telehandler being in good operating condition.

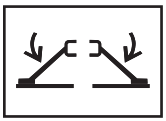
To identify the proper capacity chart on telehandlers equipped with outriggers, refer to the following icons which may be located on the capacity chart.

- Use when lifting a load with outriggers up.



OAL1090

- Use when lifting a load with outriggers down.



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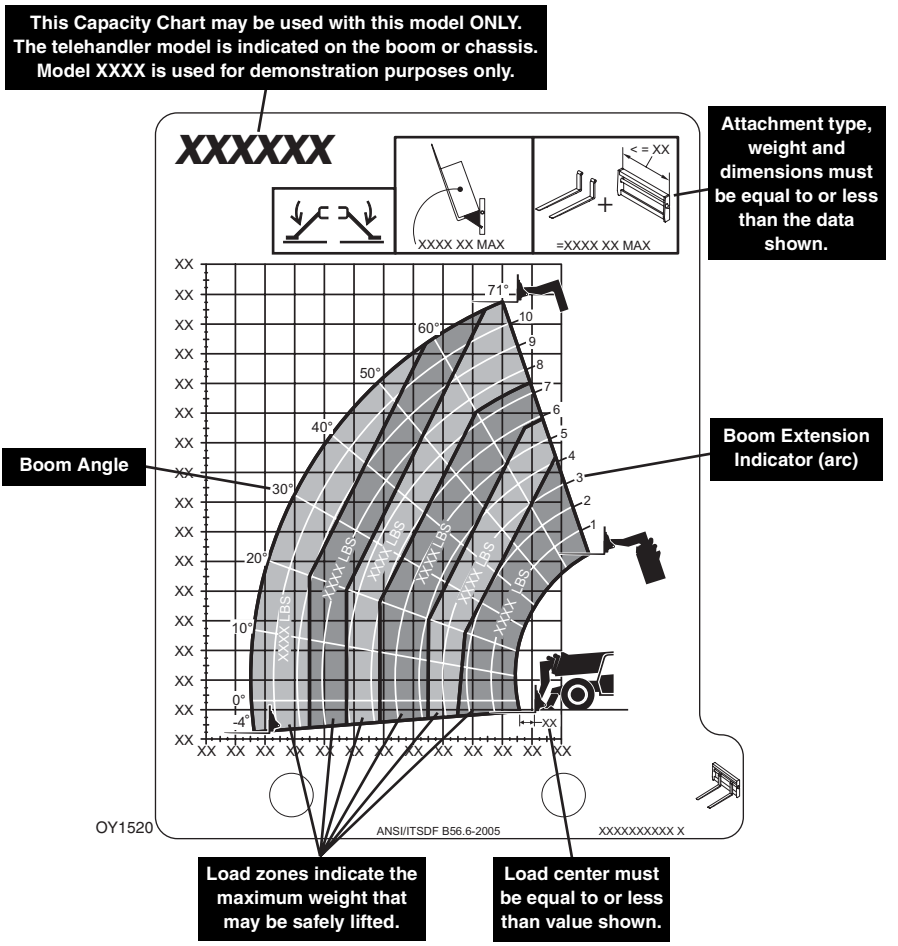
S/N 0160037689 & After



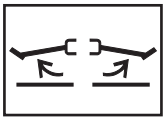
Note: *This is a sample capacity chart* ***only****!* ***DO NOT*** *use this chart, use the one located in your operator cab.*

⚠ WARNING

TIP OVER HAZARD. All loads shown on rated capacity chart are based on machine being on firm ground with frame level (see page 4-6); the forks being positioned evenly on carriage; the load being centered on forks; proper size tires being properly inflated; and the telehandler being in good operating condition.

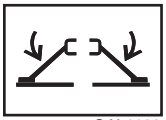
To identify the proper load chart on telehandlers equipped with outriggers, refer to the following icons which may be located on the load chart.

- Use when lifting a load with outriggers up.



OAL1090

- Use when lifting a load with outriggers down.



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Example

A contractor owns a model xxxxx telehandler with a fork carriage. He knows this attachment may be used with his model since:

Before S/N 0160037689

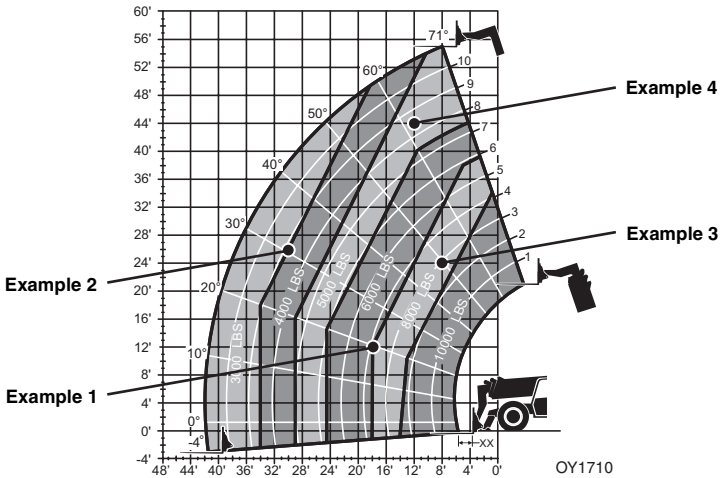
- The attachment model/option number matches the attachment number on the capacity chart.
- The capacity chart is clearly marked for model xxxxx and corresponds with machine configuration being used.

S/N 0160037689 & After

- The attachment style, weight, dimensions and load center match the attachment data on the capacity chart.
- The capacity chart is clearly marked for model xxxxx and corresponds with machine configuration being used.

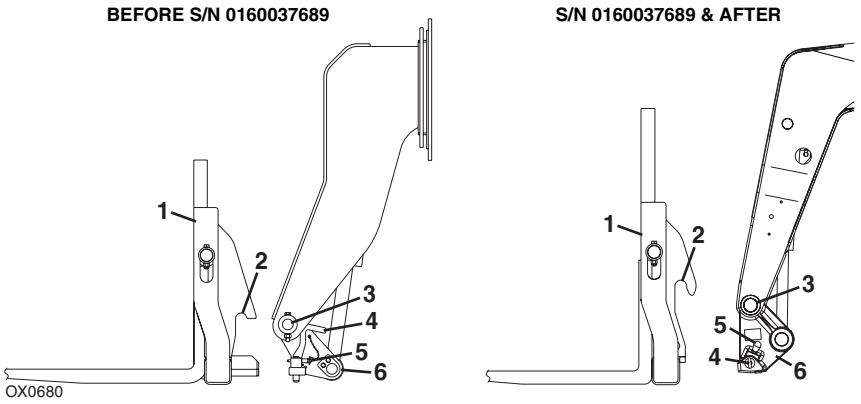
Below are examples with various conditions the contractor may encounter and whether or not the load may be lifted.

	Load Weight	Distance	Height	OK to Lift
1	6000 lb (2722 kg)	18 ft (5,5 m)	12 ft (3,7 m)	Yes
2	4000 lb (1814 kg)	30 ft (9,1 m)	26 ft (7,9 m)	NO
3	7500 lb (3402 kg)	8 ft (2,4 m)	24 ft (7,3 m)	Yes
4	5750 lb (2608 kg)	12 ft (3,7 m)	44 ft (13,4 m)	NO



Note: *This is a sample capacity chart* ***only****!* ***DO NOT*** *use this chart, use the one located in your operator cab.*

5.5 ATTACHMENT INSTALLATION



1. Attachment
2. Attachment Pin Recess
3. Attachment Pin
4. Lock Pin
5. Retaining Pin
6. Quick Switch (attachment tilt control in cab, see page 3-8)

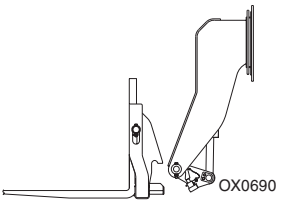
⚠ WARNING

CRUSH HAZARD. Always be certain that carriage or attachment is properly positioned on boom and is secured by lock pin and retainer pin. Failure to ensure proper installation could permit carriage/attachment/load to disengage.

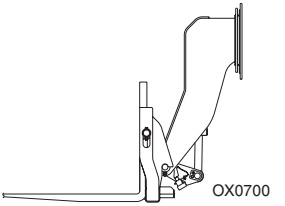
Before S/N 0160037689

This installation procedure is designed for one-person operation. Prior to exiting cab, perform *"Shut-Down Procedure"* on page 4-4.

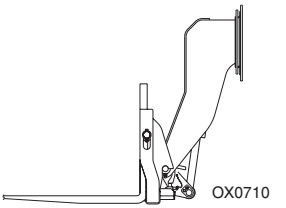
1. Tilt quick switch back to provide clearance. Check to be sure lock pin is secured in out position with retainer pin.



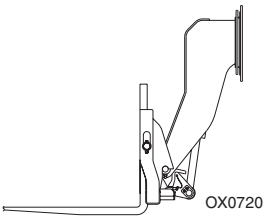
2. Align attachment pin with recess in attachment. Raise boom slightly to engage attachment pin in recess.



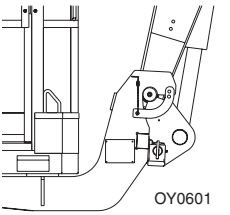
3. Tilt quick switch forward to engage attachment.



4. Remove retainer pin and slide lock pin in fully. Secure lock pin in locked position using retainer pin.



5. If equipped, swing attachment saddles down and pin in place.

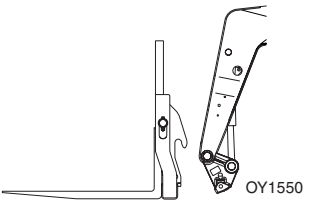


6. If equipped, connect auxiliary hydraulic hoses. See *"Hydraulic Operated Attachment"* on page 5-14.
7. If equipped, connect auxiliary electric harness.

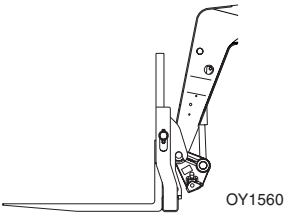
S/N 0160037689 & After

This installation procedure is designed for one-person operation. Prior to exiting cab, perform *"Shut-Down Procedure"* on page 4-4.

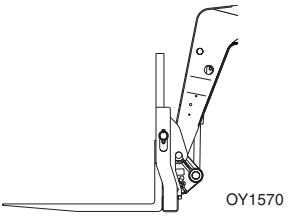
1. Tilt quick switch back to provide clearance. Check to be sure lock pin is removed.



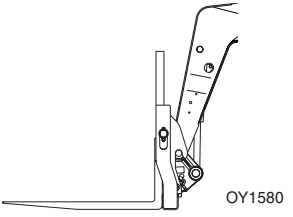
2. Align attachment pin with recess in attachment. Raise boom slightly to engage attachment pin in recess.



3. Tilt quick switch forward to engage attachment.



4. Lift retainer pin and insert lock pin completely through quick switch. Release retainer pin and ensure lock pin is secured.

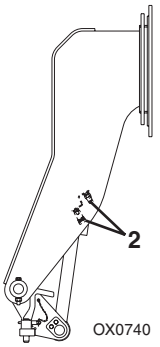


5. If equipped, connect auxiliary hydraulic hoses. See *"Hydraulic Operated Attachment"* on page 5-14.
6. If equipped, connect auxiliary electric harness.

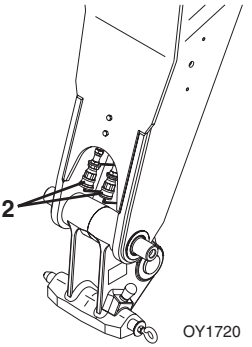
Hydraulic Operated Attachment

1. Install attachment (see page 5-11).
2. Lower attachment to ground and perform *"Shut-Down Procedure"* on page 4-4.

BEFORE S/N 0160037689



S/N 0160037689 & AFTER



3. Connect attachment hoses to both auxiliary fittings (**2**).

5.6 ADJUSTING/MOVING FORKS

Carriages may have different locations where forks can be positioned. Two different methods can be used for repositioning, depending upon the carriage structure.

Note: *Apply a light coating of appropriate lubricant to ease sliding of forks or fork bar.*

To slide forks:

1. Ensure attachment is properly installed. See *"Attachment Installation"* on page 5-11.
2. Elevate attachment to approximately 5 ft (1,5 m) and tilt carriage forward until fork heel is free from attachment.
3. Stand at the side of the carriage. To slide fork toward the center of the carriage, push the fork near the fork eye. To slide fork toward the edge of the carriage, pull the fork near the fork eye. To avoid pinching, do not place fingers or thumb between the fork and carriage structure.

If removing fork bar is necessary:

1. Rest forks on ground.
2. Remove fork bar.
3. Reposition forks.
4. Reinstall the fork bar and fork bar retaining mechanism(s).

5.7 ATTACHMENT OPERATION

- Capacities and range limits for the telehandler change depending on the attachment in use.
- Separate attachment instructions must be kept in manual holder in cab with this Operation & Safety Manual. An additional copy must be kept with the attachment if it is equipped with a manual holder.
- Operations described within this section reference right hand attachment tilt and left hand auxiliary hydraulics controls. Refer to pages 3-9 or 3-11 if equipped with a different configuration.

NOTICE

EQUIPMENT DAMAGE. Some attachments may contact the front tires or machine structure when the boom is retracted and the attachment is rotated. Improper use of attachment may result in attachment or machine structural damage.

NOTICE

EQUIPMENT DAMAGE. Avoid contact with any structure or object when lifting a load. Maintain clearance around boom structure and load. Failure to maintain clearance may result in attachment or machine structural damage.

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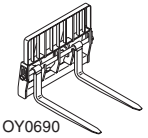
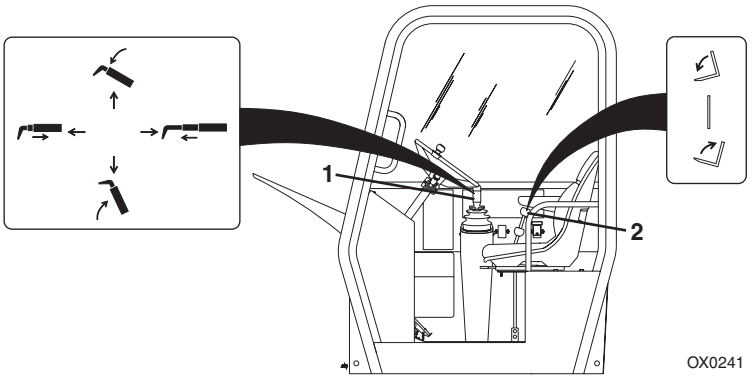
Carriage w/Forks


OY0690

Description	P/N
Carriage, 48 in (Before S/N 0160037689)	90455051
Carriage, 66 in (Before S/N 0160037689)	90455052
Carriage, 72 in (Before S/N 0160037689)	90555008
Fork, Block 2x2x48 in (Before S/N 0160037689)	90600390
Fork, Pallet 1.75x6x48 in (Before S/N 0160037689)	90601819
Fork, Pallet 2x4x48 in (Before S/N 0160037689)	90453002
Fork, Pallet 2.25x4x48 in (Before S/N 0160037689)	90453048
Fork, Pallet 2x6x48 in (Before S/N 0160037689)	90553005
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	90601015
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	91163269
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	90553018
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	91123132
Drywall Carriage, 66 in (Before S/N 0160037689)	90455053
Carriage, 50 in (Before S/N 0160037689)	1170020
Carriage, 50 in (S/N 0160037689 & After)	1170021
Carriage, 60 in (Before S/N 0160037689)	1170023
Carriage, 60 in (S/N 0160037689 & After)	1170024
Carriage, 72 in (Before S/N 0160037689)	1170026
Carriage, 72 in (S/N 0160037689 & After)	1170027
Fork, Block 2x2x48 in	2340037
Fork, Pallet 2.36x4x48 in	2340045
Fork, Pallet 2.36x5x48 in	2340038
Fork, Dual Taper 1.75x7x60 in	2340046
Fork, Dual Taper 2.36x6x60 in	2340039
Fork, Dual Taper 2x6x72 in	1001092391

Use Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



OX0241

The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the carriage tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

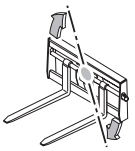
Installation Procedure:

Refer to *"Attachment Installation"* on page 5-11.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

Side Tilt Carriage

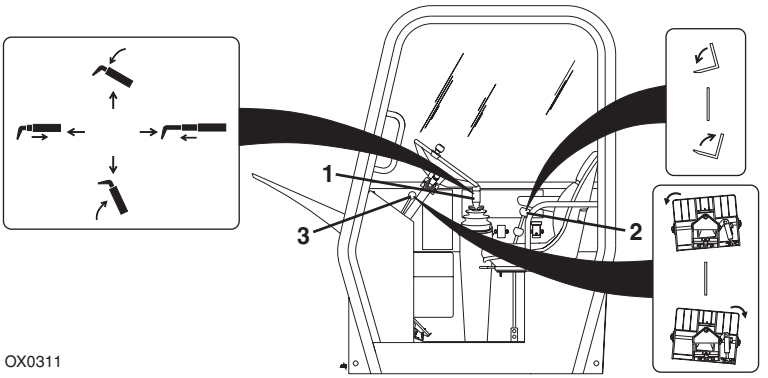


OAL1550

Description	P/N
Side Tilt Carriage, 48 in (Before S/N 0160037689)	91085058
Side Tilt Carriage, 50 in (S/N 0160037689 & After)	1170054
Side Tilt Carriage, 60 in (S/N 0160037689 & After)	1001101956
Side Tilt Carriage, 66 in (Before S/N 0160037689)	91305016
Side Tilt Carriage, 72 in (S/N 0160037689 & After)	1170057
Fork, Block 2x2x48 in (Before S/N 0160037689)	90600390
Fork, Block 2x2x48 in (S/N 0160037689 & After)	2340037
Fork, Pallet 1.75x6x48 in (Before S/N 0160037689)	90601819
Fork, Pallet 2.36x4x48 in (S/N 0160037689 & After)	2340045
Fork, Pallet 2x4x48 in (Before S/N 0160037689)	90453002
Fork, Pallet 2.25x4x48 in (Before S/N 0160037689)	90453048
Fork, Pallet 2.36x5x48 in (S/N 0160037689 & After)	2340038
Fork, Pallet 2x6x48 in (Before S/N 0160037689)	90553005
Fork, Dual Taper 1.75x7x60 in (S/N 0160037689 & After)	2340046
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	90601015
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	91163269
Fork, Dual Taper 2.36x6x60 in (S/N 0160037689 & After)	2340039
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	90553018
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	91123132
Fork, Dual Taper 2x6x72 in (S/N 0160037689 & After)	1001092391

Use Side Tilt Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



OX0311

The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the carriage tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To Side Tilt:

The auxiliary hydraulic lever (**3**) controls the carriage side tilt.

- Move lever up to (side) tilt left.
- Move lever down to (side) tilt right.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

WARNING

CRUSH HAZARD. Do not use side tilt to push or pull objects or load. Failure to comply could cause object or load to fall.

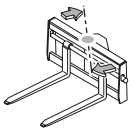
Operation:

- Approach load with forks centered on load and stop telehandler.
- Level telehandler before side tilting carriage to engage load.
- Side tilt carriage to left or right to align forks with load and engage load.
- Raise load slightly and level carriage side to side.
- Travel in accordance with the requirements set forth in Section 1 - General Safety Practices.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

Swing Carriage

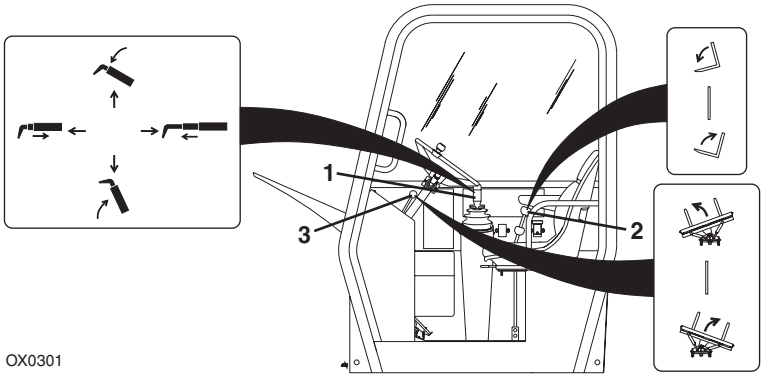


OU2150

Description	P/N
90° Swing Carriage (S/N 0160037689 & After)	1001095418
100° Swing Carriage (Before S/N 0160037689)	90455044
180° Swing Carriage (Before S/N 0160037689)	90553024
180° Swing Carriage (Before S/N 0160037689)	91553076
180° Swing Carriage (S/N 0160037689 & After)	1001104992
Fork, Block 2x2x48 in (Before S/N 0160037689)	90600390
Fork, Block 2x2x48 in (S/N 0160037689 & After)	2340037
Fork, Pallet 1.75x6x48 in (Before S/N 0160037689)	90601819
Fork, Pallet 2.36x4x48 in (S/N 0160037689 & After)	2340045
Fork, Pallet 2x4x48 in (Before S/N 0160037689)	90453002
Fork, Pallet 2.25x4x48 in (Before S/N 0160037689)	90453048
Fork, Pallet 2.36x5x48 in (S/N 0160037689 & After)	2340038
Fork, Pallet 2x6x48 in (Before S/N 0160037689)	90553005
Fork, Dual Taper 1.75x7x60 in (S/N 0160037689 & After)	2340046
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	90601015
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	91163269
Fork, Dual Taper 2.36x6x60 in (S/N 0160037689 & After)	2340039
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	90553018
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	91123132
Fork, Dual Taper 2x6x72 in (S/N 0160037689 & After)	1001092391
100° Drywall Swing Carriage (Before S/N 0160037689)	90555013

Use Swing Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



OX0301

The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the carriage tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To Swing:

The auxiliary hydraulic lever (**3**) controls the carriage swing.

- Move lever up to swing left.
- Move lever down to swing right.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

⚠ WARNING

CRUSH HAZARD. Always level forks (horizontally) and telehandler frame before swinging load to side. Swinging unlevel forks could cause load to slide off forks.

⚠ WARNING

CRUSH HAZARD. Do not use swing carriage to push or pull objects or load. Failure to comply could cause object or load to fall.

⚠ WARNING

CRUSH HAZARD. Use retaining pin (if equipped) for locking swing frame to fixed frame when carrying loads greater than 5000 lb. Failure to comply could cause object or load to fall.

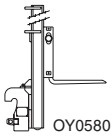
Operation:

- To drive with a load, keep forks pointed forward and travel in accordance with the requirements set forth in Section 1 - General Safety Practices.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

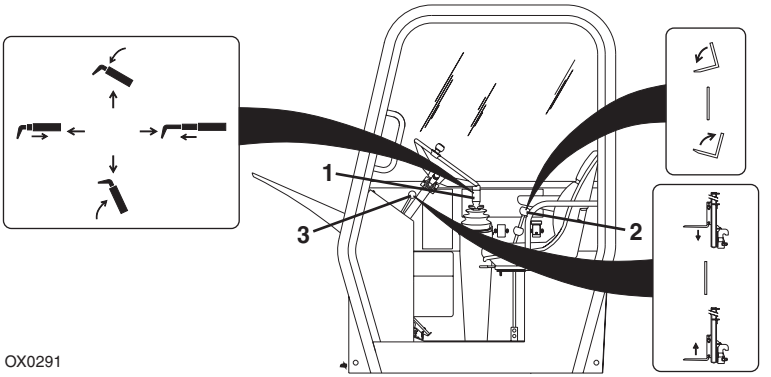
Mast Carriage


OY0580

Description	P/N
6 ft Mast Carriage, 48 in (Before S/N 0160037689)	90455035
6 ft Mast Carriage, 66 in (Before S/N 0160037689)	90455037
8 ft Mast Carriage, 50 in (S/N 0160037689 & After)	1001108668
Fork, Block 2x2x48 in (Before S/N 0160037689)	90600390
Fork, Block 2x2x48 in (S/N 0160037689 & After)	2340037
Fork, Pallet 1.75x6x48 in (Before S/N 0160037689)	90601819
Fork, Pallet 2.36x4x48 in (S/N 0160037689 & After)	2340045
Fork, Pallet 2x4x48 in (Before S/N 0160037689)	90453002
Fork, Pallet 2.25x4x48 in (Before S/N 0160037689)	90453048
Fork, Pallet 2.36x5x48 in (S/N 0160037689 & After)	2340038
Fork, Pallet 2x6x48 in (Before S/N 0160037689)	90553005
Fork, Dual Taper 1.75x7x60 in (S/N 0160037689 & After)	2340046
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	90601015
Fork, Pallet 2x6x60 in (Before S/N 0160037689)	91163269
Fork, Dual Taper 2.36x6x60 in (S/N 0160037689 & After)	2340039
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	90553018
Fork, Pallet 2x6x72 in (Before S/N 0160037689)	91123132
Fork, Dual Taper 2x6x72 in (S/N 0160037689 & After)	1001092391

Use Mast Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



OX0291

The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the mast tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To Raise/Lower Mast:

The auxiliary hydraulic lever (**3**) controls the raise/lower movement of the mast.

- Move lever up to lower.
- Move lever down to raise.

Installation Procedure:

Refer to *"Attachment Installation"* on page 5-11.

WARNING

CRUSH HAZARD. Do not use mast to push or pull objects or load. Failure to comply could cause object or load to fall.

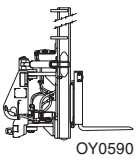
Operation:

- Always lower forks fully in mast before engaging load.
- To drive with a load, lower forks fully in mast and travel in accordance with the requirements set forth in Section 1 - General Safety Practices.
- Use a signal person to assist in positioning of load if necessary.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

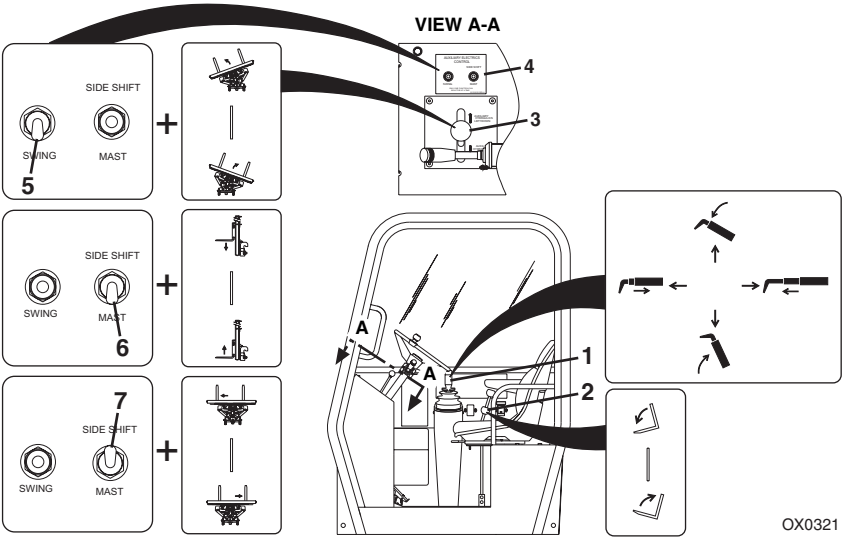
Mast Carriage w/Swing and Side Shift (Before S/N 0160037689)


OY0590

Description	P/N
6 ft Mast Carriage, 100° Swing, 48 in Fork	90455047
Fork, Pallet 1.75x4x48 in	90553008
6 ft Mast Carriage, 100° Swing, 60 in Fork	90455054
Fork, Pallet 2x6x60 in	90453045

Use 6 ft Mast Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the mast tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To Swing:

Pull Swing Switch (**5**) located on dash panel (**4**) to activate Swing function.

The auxiliary hydraulic lever (**3**) controls the carriage swing.

- Move lever up to swing left.
- Move lever down to swing right.

To Raise/Lower Mast:

Pull Mast Raise/Lower Switch (**6**) located on dash panel to activate Mast Raise/Lower function.

The auxiliary hydraulic lever controls the mast raise/lower function.

- Move lever up to lower.
- Move lever down to raise.

To Side Shift:

Push Side Shift Switch (**7**) located on dash panel to activate Side Shift function.

The auxiliary hydraulic lever controls the carriage side shift.

- Move lever up to shift left.
- Move lever down to shift right.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

⚠ WARNING

CRUSH HAZARD. Always level forks (horizontally) and telehandler frame before swinging load to side. Swinging unlevel forks could cause load to slide off forks.

⚠ WARNING

CRUSH HAZARD. Do not use mast to push or pull objects or load. Failure to comply could cause object or load to fall.

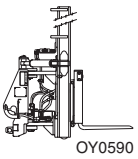
Operation:

- Always lower forks fully in mast and position forks straight ahead before engaging load.
- To drive with a load, lower forks fully in mast, keep forks pointed forward and travel in accordance with the requirements set forth in Section 1 - General Safety Practices.
- Use a signal person to assist in positioning load if necessary.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

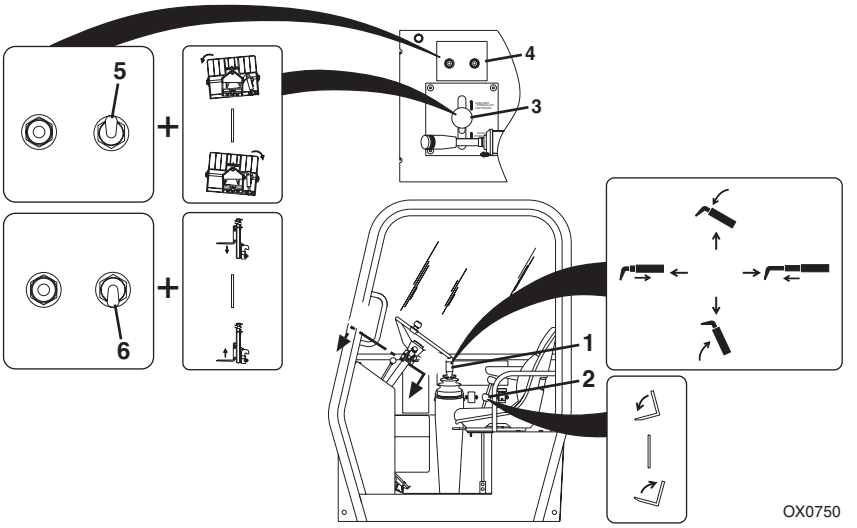
Mast Carriage w/Side Tilt (S/N 0160037689 & After)


OY0590

Description	P/N
8 ft Mast Carriage with Side Tilt	1001108669
Fork, Block 2x2x48 in	2340037
Fork, Pallet 2.36x4x48 in	2340045
Fork, Pallet 2.36x5x48 in	2340038
Fork, Dual Taper 1.75x7x60 in	2340046
Fork, Dual Taper 2.36x6x60 in	2340039
Fork, Dual Taper 2x6x72 in	1001092391

Use Mast Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the mast tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To Side Tilt:

Press Side Tilt Switch (**5**) located on dash panel (**4**) to activate Side Tilt function.

The auxiliary hydraulic lever (**3**) controls the carriage side tilt.

- Move lever up to (side) tilt left.
- Move lever down to (side) tilt right.

To Raise/Lower Mast:

Press Mast Raise/Lower Switch (**6**) located on dash panel to activate Mast Raise/Lower function.

The auxiliary hydraulic lever controls the mast raise/lower function.

- Move joystick up to lower.
- Move joystick down to raise.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

⚠ WARNING

CRUSH HAZARD. Do not use mast to push or pull objects or load. Failure to comply could cause object or load to fall.

⚠ WARNING

CRUSH HAZARD. Do not use side tilt to push or pull objects or load. Failure to comply could cause object or load to fall.

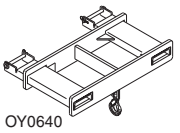
Operation:

- Always lower forks fully in mast before engaging load.
- To drive with a load, lower forks fully in mast and travel in accordance with the requirements set forth in Section 1 - General Safety Practices.
- Use a signal person to assist in positioning load if necessary.

Equipment Damage Precautions:

- Do not use forks as a lever to pry material. Excessive prying forces could damage forks or machine structure.
- Do not attempt to lift loads that are attached or connected to another object.

Fork Mounted Hook (Before S/N 0160037689)

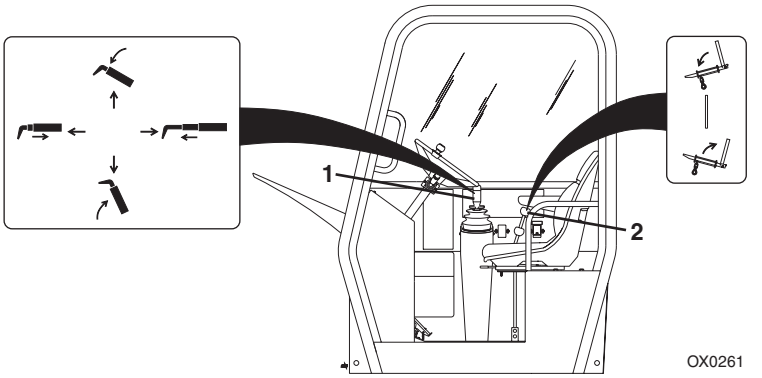

OY0640

Description	P/N
Fork Mounted Hook	90553036
Fork Mounted Hook	91565094

Use Appropriate Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.

Suspend loads in accordance with requirements set forth in Section 1 - General Safety Practices.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the fork mounted hook tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

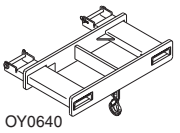
Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.
- Secure the fork mounted hook to the forks by sliding the fork mounted hook onto the parent forks and install the retaining pin behind the vertical shank of the fork.

Operation:

- Pallet or lumber forks of an appropriate load rating must be used. Do not use with cubing or block forks.
- Weight of fork mounted hook and rigging must be included as part of total load being lifted.
- Do not use fork mounted hook with attachments capable of rotating (i.e. side tilt and swing carriages) without disabling the rotation feature(s).

Fork Mounted Hook (S/N 0160037689 & After)

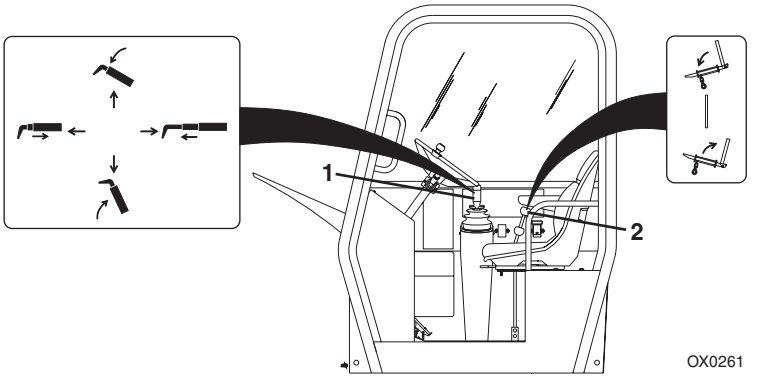

OY0640

Description	P/N
Fork Mounted Hook	91565094

Use Fork Mounted Hook Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.

Suspend loads in accordance with requirements set forth in Section 1 - General Safety Practices.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls the fork mounted hook tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

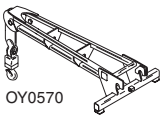
Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.
- Secure the fork mounted hook to the forks by sliding the fork mounted hook onto the parent forks and install the retaining pin behind the vertical shank of the fork.

Operation:

- Pallet or lumber forks of an appropriate load rating must be used. Do not use with cubing or block forks.
- Weight of rigging must be included as part of total load being lifted.
- Do not use fork mounted hook with attachments capable of rotating (i.e. side tilt and swing carriages) without disabling the rotation feature(s).

Truss Boom

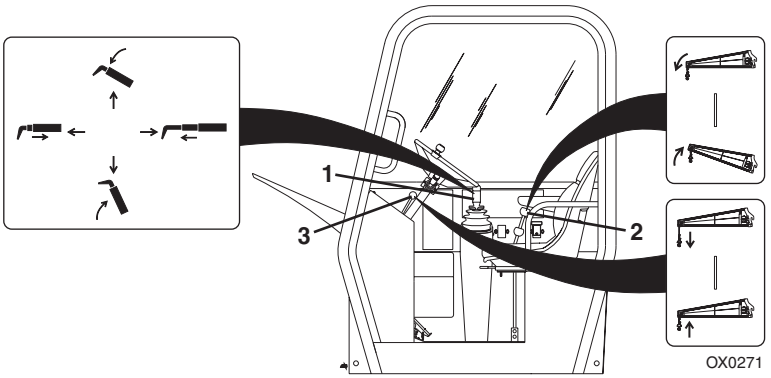

OY0570

Description	P/N
Truss Boom, 10 ft (Before S/N 0160037689)	90455011
Truss Boom, 10 ft w/winch (Before S/N 0160037689)	90455012
Truss Boom, 10 ft w/winch reeving (Before S/N 0160037689)	90555018
Truss Boom, 12 ft (S/N 0160037689 & After)	1001099902
Truss Boom, 12 ft w/winch (S/N 0160037689 & After)	1001099351
Truss Boom, 15 ft (S/N 0160037689 & After)	1001099901

Use Appropriate Truss Boom Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.

Suspend loads in accordance with requirements set forth in Section 1 - General Safety Practices.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls truss boom tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

Winch Control (if equipped):

The auxiliary hydraulic lever (**3**) controls the truss boom mounted winch.

- Move lever up to lower cable.
- Move lever down to raise cable.

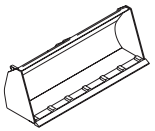
Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

WARNING

CRUSH HAZARD. Maintain a minimum of three wraps of wire rope on the cable drum at all times. Failure to comply could cause object or load to fall.

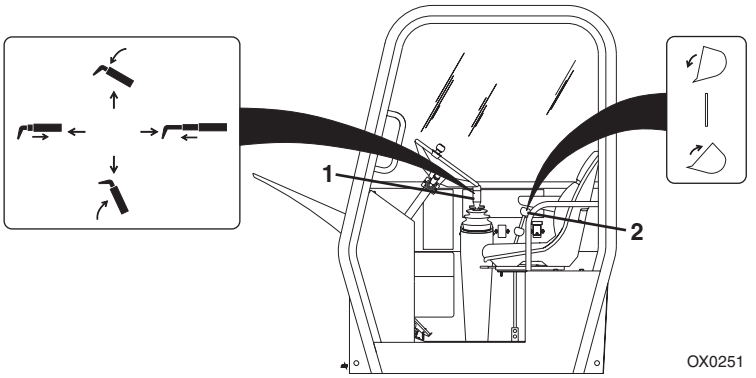
Bucket


OZ0730

Description	P/N
Bucket, 60 in - 0.75 yd^3 (Before S/N 0160037689).....	90455049
Bucket, 72 in - 1.0 yd^3 (S/N 0160037689 & After)	1001100822
Bucket, 74 in - 1.25 yd^3 (Before S/N 0160037689).....	90555020
Bucket, 74 in - 2.0 yd^3 (Before S/N 0160037689).....	90453039
Bucket, 96 in - 1.5 yd^3 (S/N 0160037689 & After)	1001100823
Bucket, 102 in - 2.0 yd^3 (S/N 0160037689 & After) ..	1001100824
Concrete Hopper - 0.75 yd^3 (Before S/N 0160037689).....	91123115

Use Appropriate Bucket Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls bucket tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

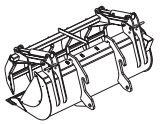
Operation:

- Raise or lower boom to appropriate height for loading material from stockpile.
- Align telehandler with face of stockpile and drive slowly and smoothly into pile to load bucket.
- Tilt bucket up far enough to retain load and back away from pile.
- Travel in accordance with requirements set forth in Section 1 - General Safety Practices.
- Tilt bucket down to dump load.

Equipment Damage Precautions

- Except for lifting or dumping a load, the boom must be fully retracted for all bucket operations.
- Do not corner-load bucket. Distribute material evenly within the bucket. Bucket capacity charts are for evenly distributed loads only.
- Do not use bucket as a lever to pry material. Excessive prying forces could damage bucket or machine structure.
- Do not attempt to load material which is hard or frozen. This could cause severe damage to quick switch or machine structure.
- Do not use bucket for "back dragging." This could cause severe damage to quick switch and retraction cables/chains.

Grapple Bucket (S/N 0160037689 & After)

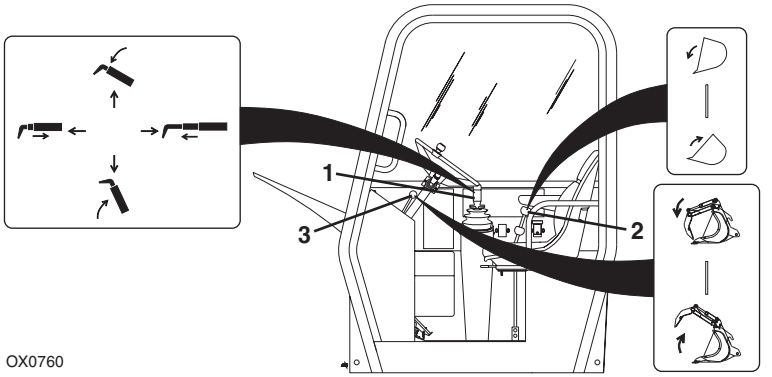


OZ1450

Description	P/N
Bucket, Grapple, 96 in - 1.75 yd^3	0930020

Use Grapple Bucket Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.



OX0760

The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls grapple bucket tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

To open/close grapple:

The auxiliary hydraulic lever (**3**) controls the open/close movement of the grapple.

- Move lever up to close grapple.
- Move lever down to open grapple.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.

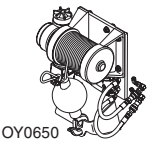
Operation:

- Raise or lower boom to appropriate height and open grapple for loading material from stockpile.
- Align telehandler with face of stockpile and drive slowly and smoothly into pile to load bucket.
- Tilt bucket up far enough to retain load, close grapple and back away from pile.
- Travel in accordance with requirements set forth in Section 1 - General Safety Practices.
- Open grapple and tilt bucket down to dump load.

Equipment Damage Precautions

- Except for lifting or dumping a load, the boom must be fully retracted for all bucket operations.
- Do not corner-load bucket. Distribute material evenly within the bucket. Bucket capacity charts are for evenly distributed loads only.
- Do not use bucket as a lever to pry material. Excessive prying forces could damage bucket or machine structure.
- Do not attempt to load material which is hard or frozen. This could cause severe damage to quick switch or machine structure.
- Do not use bucket for "back dragging." This could cause severe damage to quick switch and retraction cables/chains.

Boom Head-Mounted Winch (Before S/N 0160037689)

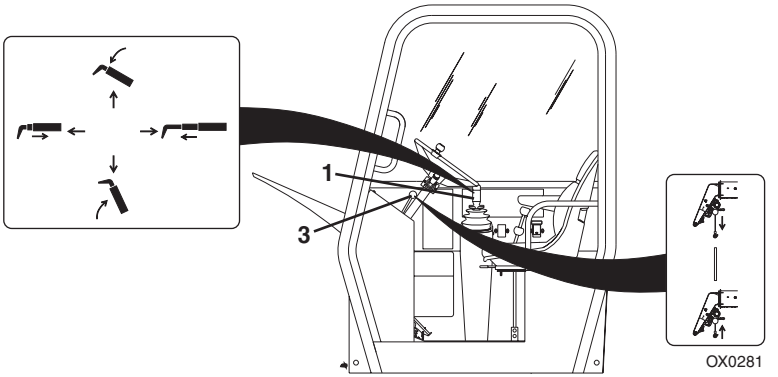

OY0650

Description	P/N
Winch	91165011

Use Carriage Attachment Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.

Suspend loads in accordance with requirements set forth in Section 1 - General Safety Practices.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The auxiliary hydraulic lever (**3**) controls the winch.

- Move lever up to lower cable.
- Move lever down to raise cable.

⚠ WARNING

CRUSH HAZARD. Maintain a minimum of three wraps of wire rope on the cable drum at all times. Failure to comply could cause object or load to fall.

Personnel Work Platform (Before S/N 0160037689)

The operator and personnel in platform must read and understand the separate personnel work platform manual prior to installing and using a platform.

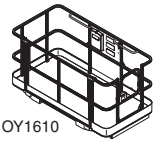
Preparation and Setup

1. Check to ensure the personnel platform is securely attached at the quick switch or is securely attached to the forks and/or carriage if using fork mounted personnel work platform. Follow installation procedure on page 5-11 for JLG quick switch mounted personnel work platforms.
2. Ensure the telehandler is on a firm surface and is level.
3. Engage the park brake. Blocking the wheels is also recommended.
4. Level the platform, both side to side (frame level) and front to back (attachment tilt).
5. Keep area under the platform free from personnel.
6. When personnel are on platform, the operator must remain seated in cab with personnel in direct line of sight.
7. **DO NOT** lift or carry persons in the bucket or on forks.

⚠ WARNING

FALL HAZARD. Never tilt the platform forward, rearward, or level the machine when the platform is occupied.

Personnel Work Platform (S/N 0160037689 & After)

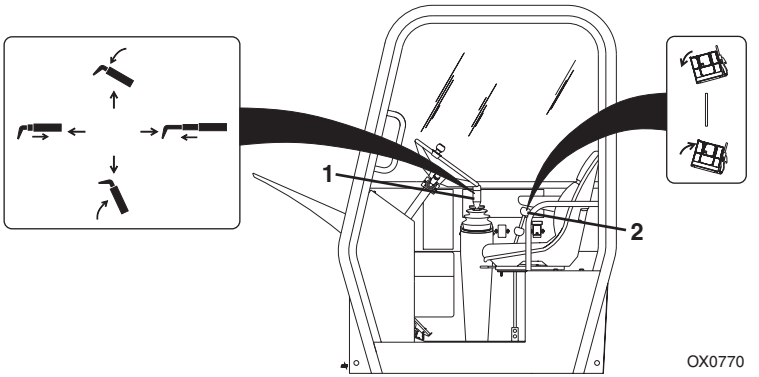

OY1610

Description	P/N
Personnel Work Platform, ANSI	1001103637
Personnel Work Platform, ANSI (French)	1001103736
Personnel Work Platform, ISO	1001103730

Use Personnel Work Platform Capacity Chart

To determine maximum capacity, refer to *"Telehandler/Attachment/Fork Capacity"* on page 5-3.

The operator and personnel in platform must read and understand the separate personnel work platform manual prior to installing and using a platform.



The joystick (**1**) controls lift/lower and extend/retract movement of the boom.

The tilt lever (**2**) controls platform tilt.

- Move lever back to tilt up.
- Move lever forward to tilt down.

Installation Procedure:

- Refer to *"Attachment Installation"* on page 5-11.
- Check to ensure the personnel platform is securely attached to the forks and/or carriage.

Preparation and Setup:

1. Ensure the telehandler is on a firm surface and is level.
2. Engage the park brake. Blocking the wheels is also recommended.
3. Level the platform, both side to side (frame level) and front to back (attachment tilt).
4. Keep area under platform free from personnel.
5. When personnel are on platform, the operator must remain seated in cab with personnel in direct line of sight.
6. **DO NOT** lift or carry persons in a bucket or on forks.

⚠ WARNING

FALL HAZARD. Never tilt the platform forward, rearward, or level the machine when the platform is occupied.

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SECTION 6 - EMERGENCY PROCEDURES

6.1 TOWING A DISABLED PRODUCT

The following information assumes the telehandler cannot be moved under its own power.

- Before moving the telehandler, read all of the following information to understand options available. Then select the appropriate method.
- Machine mounted retrieval devices provide suitable means to attach a tow rope, chain or tow bar only in the event the telehandler becomes stuck or disabled. Retrieval devices are not intended for trailer towing devices.
- The steering system permits manual steering if engine or power assist feature fails; however, **steering will be slow and will require much greater force.**
- **DO NOT** attempt to tow a telehandler that is loaded or the boom/attachment is raised above 4 ft (1,2 m).

Moving Short Distances

- If it is only necessary to move telehandler a short distance, less than 100 ft (30 m), it is permissible to use a vehicle of sufficient capacity to tow the unit with no previous preparation. Drive wheels will not roll.

Moving Longer Distances

- If the telehandler must be moved longer distances, it must be loaded onto a trailer of sufficient capacity.

Contact a local Authorized Distributor for specific instructions if neither of these methods are applicable.

6.2 EMERGENCY LOWERING OF BOOM

In the event of total loss of engine power or hydraulic pump failure with an elevated load, the situation must be properly evaluated and dealt with on an individual basis. **Contact a local Authorized Distributor for specific instructions.**

Secure the telehandler using the following procedures:

1. Clear the area around telehandler of all personnel.
2. Engage the parking brake. Place the transmission control lever in “NEUTRAL”.
3. Block all four wheels.
4. Section off a large area under the boom with string or tape to restrict any personnel from entering this area.

6.3 EMERGENCY EXIT FROM ENCLOSED CAB

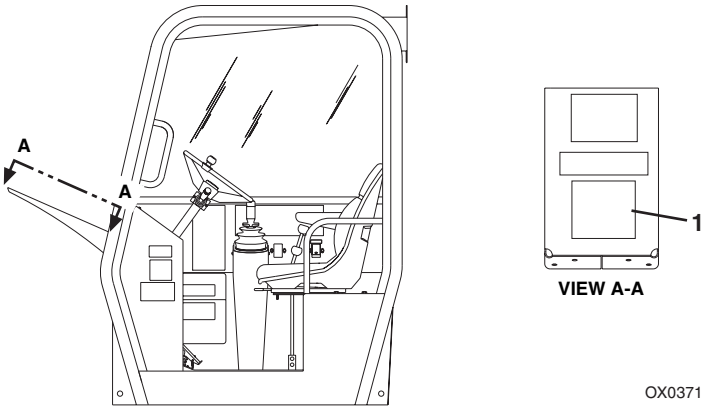
OX0500

- In an emergency, pull pins at bottom of front window and push window out to exit.

SECTION 7 - LUBRICATION AND MAINTENANCE

7.1 INTRODUCTION

Service the product in accordance with the maintenance schedule on the following pages.



The Lubrication and Maintenance Decal (**1**) contains instructions that must be followed to keep this product in good operating condition. The Operation & Safety Manual and Service Manual contain more detailed service information with specific instructions.

Clothing and Safety Gear

- Wear all the protective clothing and personal safety devices issued to you or called for by job conditions.
- **DO NOT** wear loose clothing or jewelry that can get caught on controls or moving parts.

7.2 GENERAL MAINTENANCE INSTRUCTIONS

Prior to performing any service or maintenance on the telehandler, follow the shut-down procedure on page 4-4 unless otherwise instructed. Ensure telehandler is level, for proper fluid readings.

- Clean lubrication fittings before lubricating.
- After greasing telehandler, cycle all functions several times to distribute lubricants. Perform this maintenance procedure without attachment installed.
- Apply a light coating of engine oil to all linkage pivot points.
- Intervals shown are for normal usage and conditions. Adjust intervals for abnormal usage and conditions.
- Drain engine and gear cases after operating when oil is hot.
- Check all lubricant levels when lubricant is cool. For ease of filling hydraulic reservoir, use a funnel with a hose or flexible tube for best results.

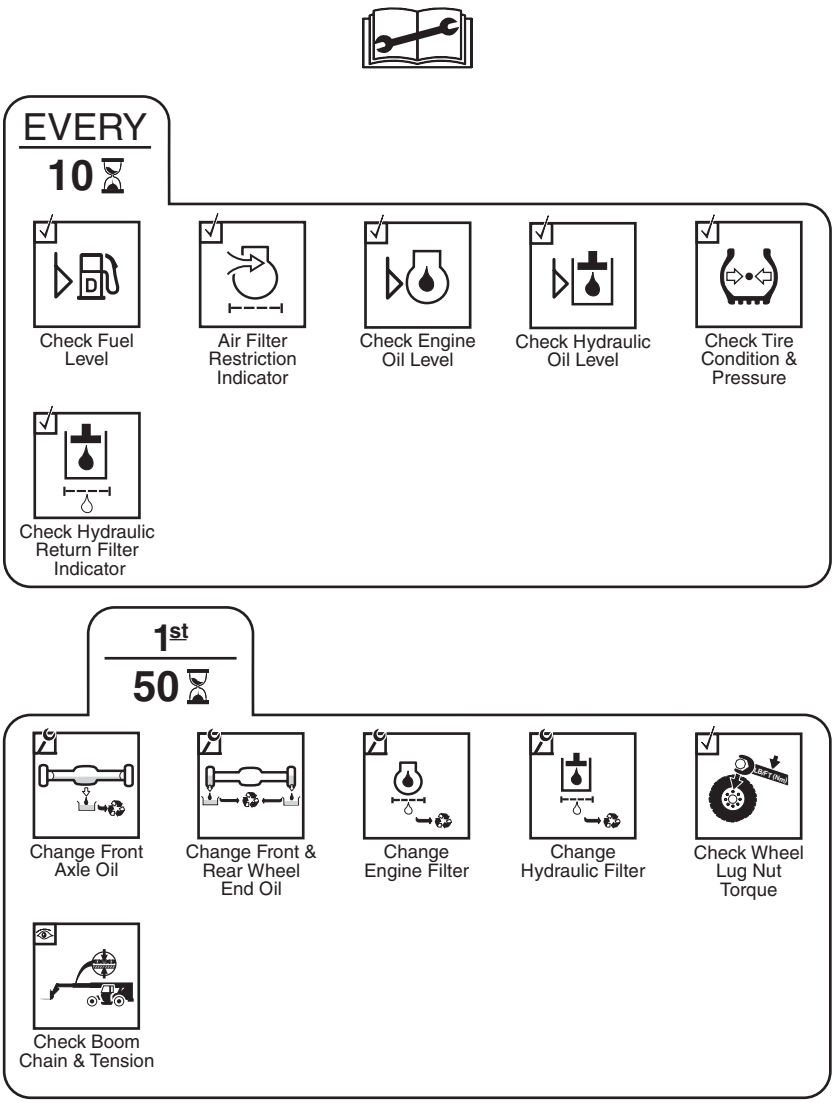
Note: *Be certain to check boom chain adjustment every 500 hours and adjust as required. Chain damage can occur if chain is not adjusted properly.*

⚠ WARNING

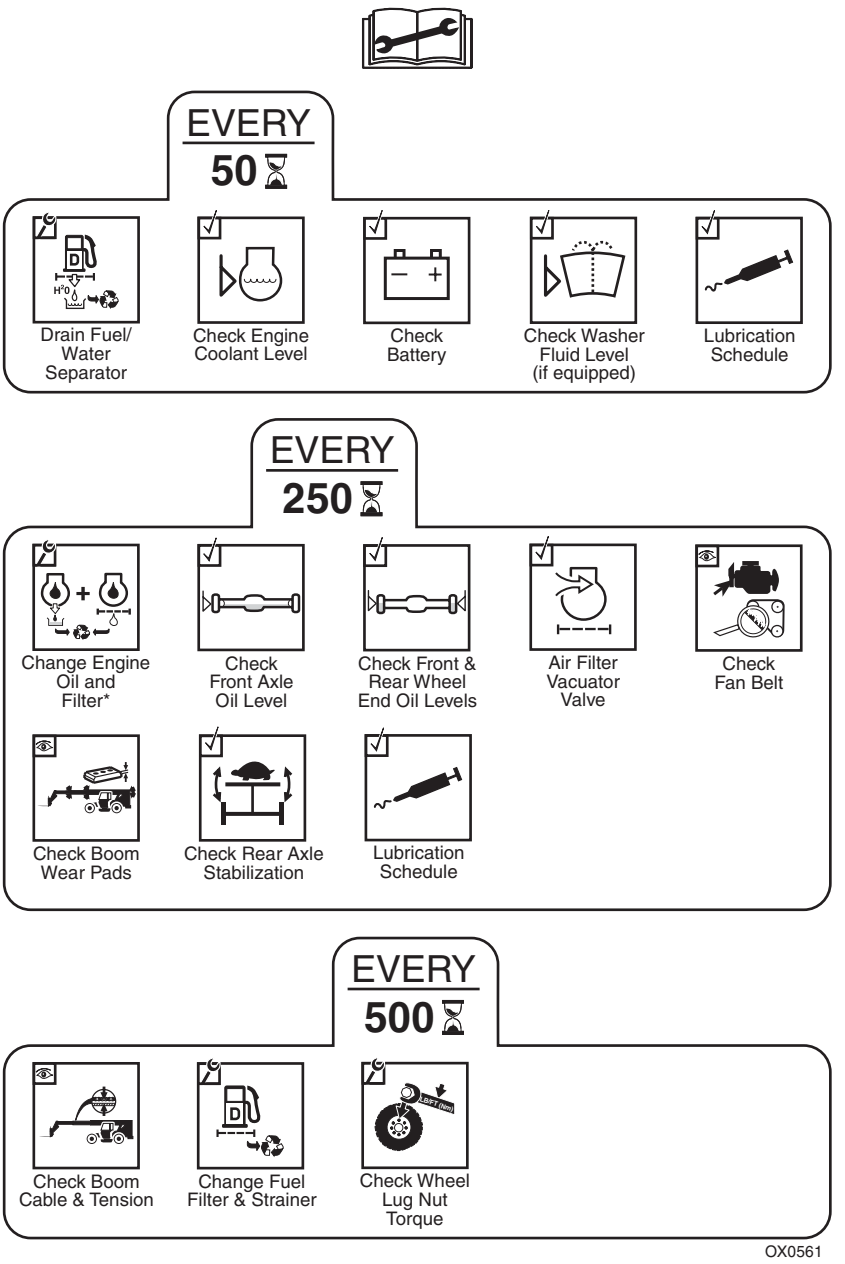
CUT/CRUSH/BURN HAZARD. Do not perform service or maintenance on the machine with the engine running, with the exception of the hydraulic return filter indicator checks.

7.3 SERVICE AND MAINTENANCE SCHEDULE

10 & 1st 50 Hour Maintenance Schedule

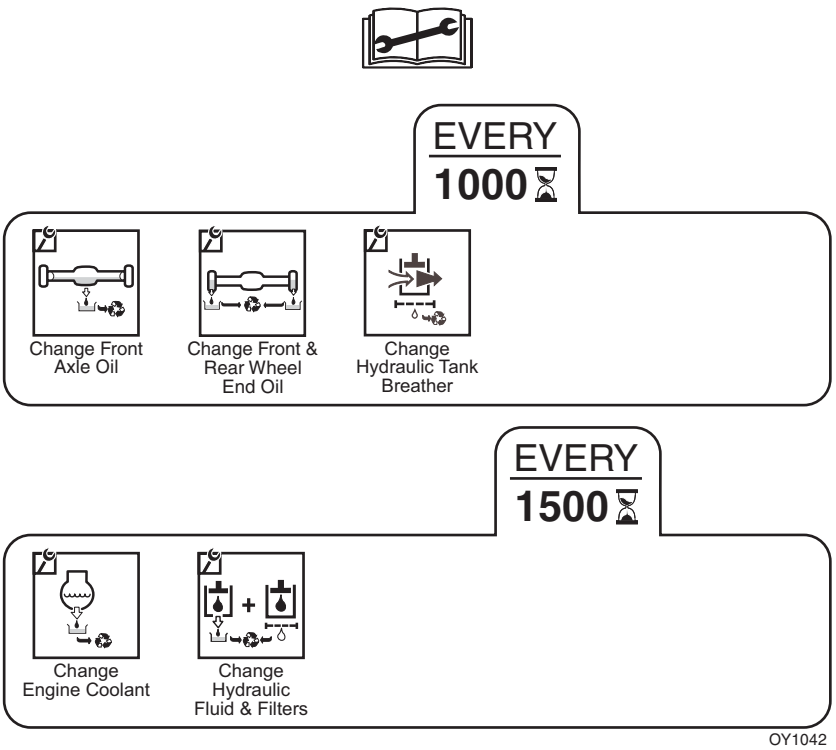


50, 250 & 500 Hour Maintenance Schedule



Note: *Engine oil and filter service interval can be extended, see page 7-12 for details.*

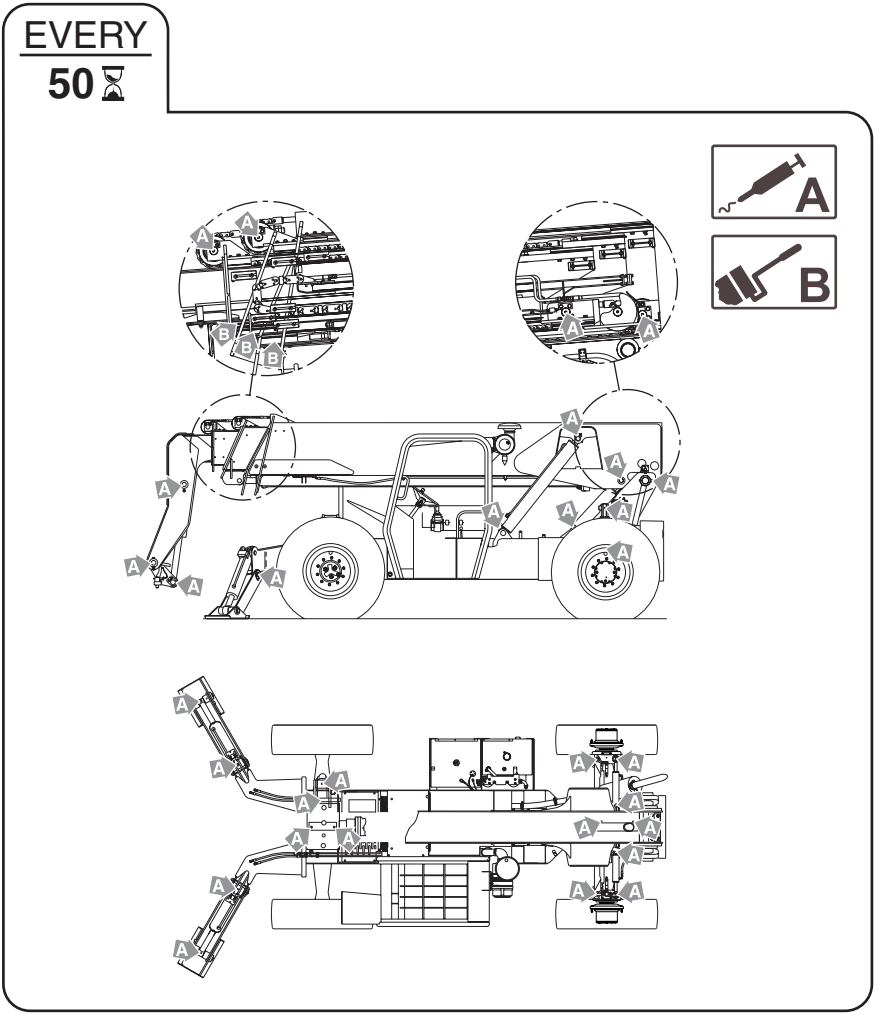
1000 & 1500 Hour Maintenance Schedule



7.4 LUBRICATION SCHEDULES

50 Hour Lubrication Schedule

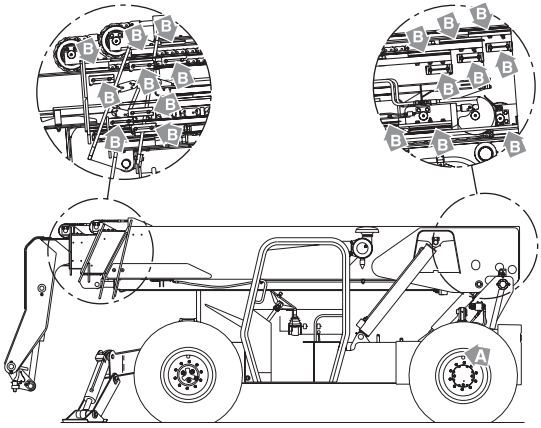
EVERY
50



MX0052

250 Hour Lubrication Schedule

EVERY
250



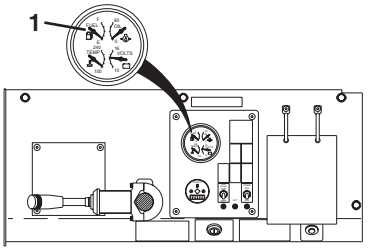
MX0072

7.5 OPERATOR MAINTENANCE INSTRUCTIONS

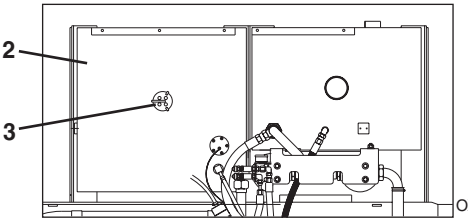
Fuel System

A. Fuel Level Check

10 OW0970 OW0990



VIEW OF DASH



VIEW OF FUEL TANK FROM TOP OF MACHINE

1. Check fuel gauge (**1**) located on instrument panel in cab.
2. If fuel is low, proceed to fuel source and perform *"Shut-Down Procedure"* on page 4-4.
3. Locate fuel tank (**2**), turn fuel tank cap (**3**) and remove from filler neck.
4. Add diesel fuel as needed.
5. Replace and secure fuel tank cap.

Note: *Replenish diesel fuel at end of each work shift to minimize condensation.*

NOTICE

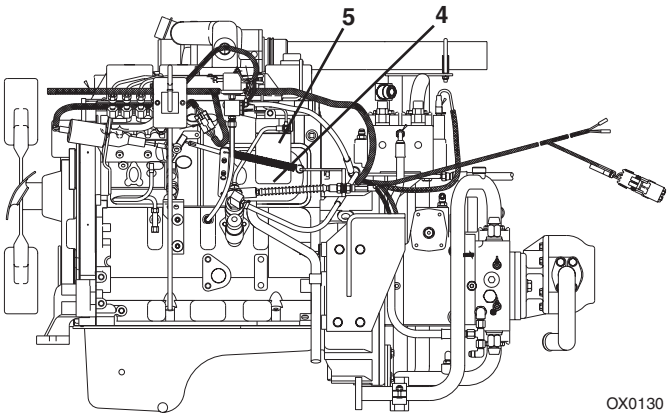
EQUIPMENT DAMAGE. Do not allow machine to run out of fuel during operation. See Engine Operation & Maintenance Manual for details prior to servicing.

B. Drain Fuel/Water Separator

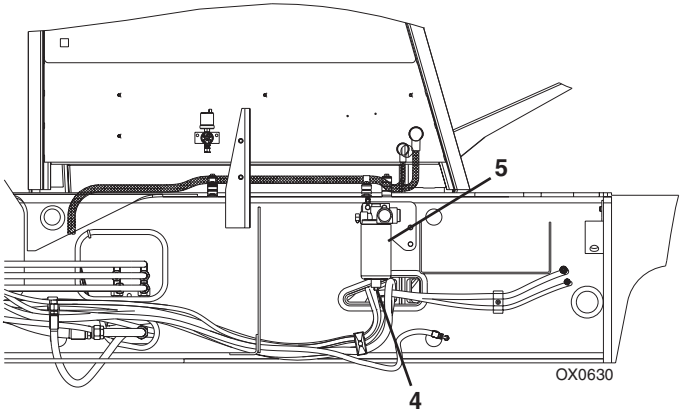
50 OW0980

OW1000

JOHN DEERE ENGINE



CUMMINS ENGINE

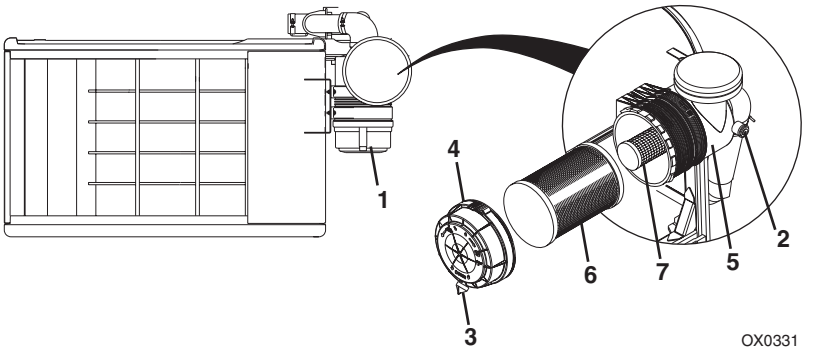


1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Open the engine cover.
3. Loosen drain cock (**4**) on underside of fuel filter (**5**) and allow all water to drain into a glass until clear fuel is visible.
4. Tighten drain cock.
5. Close and secure the engine cover.

Air Intake System

A. Air Filter Restriction Indicator Check

10 OW0970 OW1010



1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Locate air cleaner (**1**) and check restriction indicator (**2**). If red band is visible, filter(s) must be replaced.
3. Remove dust from vacuator valve (**3**) by squeezing bottom of valve to allow loose particles to fall out.

Note: *Only remove canister cover to service the elements as restriction indicator indicates. Excessive access to check an element can lead to premature element failure.*

B. Element Change (as restriction indicator indicates)

1. Unlock air cleaner cover (**4**), turn counterclockwise and remove from air cleaner canister (**5**).
2. Remove outer primary element (**6**) and inspect for damage. Damaged elements should not be reused.
3. Thoroughly clean the interior of the air cleaner canister and vacuator valve.
4. Replace inner safety element (**7**) after every third primary element change. If replacing the inner safety element at this time, carefully slide the element out and replace with new element.
5. Slide the new primary element over the inner element making sure the sealing edge is flush with the base of the air cleaner.
6. Position air cleaner cover in place, turn clockwise and lock into position.
7. Depress button on restriction indicator to reset.

Note: *An inner safety element should never be washed or reused. Always install a new element.*

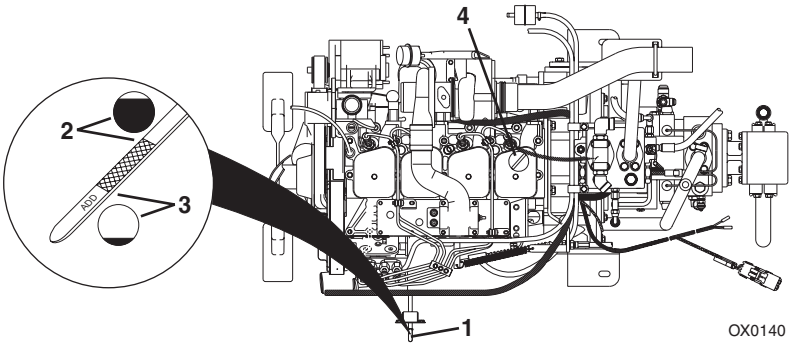
Engine Oil

A. Engine Oil Level Check

10 OW0970

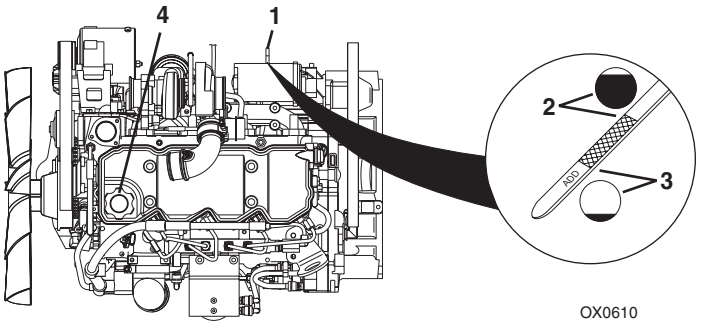
OW1020

JOHN DEERE ENGINE



OX0140

CUMMINS ENGINE



OX0610

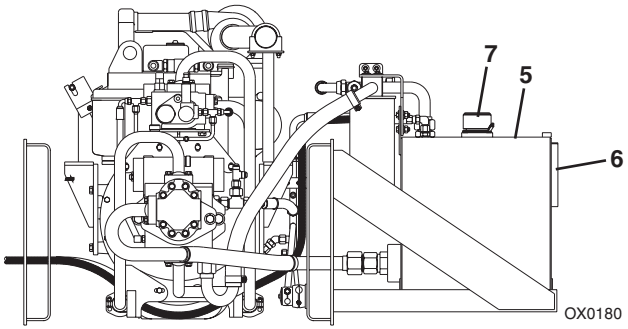
1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Remove dipstick (**1**) and check oil mark. The oil should be between the full (**2**) and add (**3**) marks within the crosshatched area of the dipstick.
3. If oil is low, open the engine cover, remove oil fill cap (**4**) and add motor oil to bring oil up to the full mark in the crosshatch area.
4. Replace oil fill cap and dipstick.
5. Close and secure the engine cover.

Note: *The standard service interval for engine oil and filter is 250 hours maximum. If an extended service interval is desired, see your engine manual for specific guidelines for optimizing oil change intervals.*

Hydraulic Oil

A. Hydraulic Oil Level Check

10 OW0970 OW1030



1. Be sure all cylinders are fully retracted and machine is level.
2. Perform *"Shut-Down Procedure"* on page 4-4.
3. Check level of hydraulic oil at the sight gauge (**6**) on the hydraulic tank (**5**). The oil level should be visible in the gauge window.
4. If hydraulic oil is low, open the tank cover and remove oil fill cap (**7**) from filler neck. Add hydraulic fluid to bring oil up to the upper mark on the sight gauge.
5. Replace hydraulic oil fill cap.
6. Close and secure the tank cover.

Tires

A. Tire Air Pressure Check

10 OW0970 OW1040

1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Remove valve stem cap.
3. Check tire pressure.
4. Add air if required.
   14.00 x 24, G-2/L-2 Bias-Ply Traction - 12 Ply ..... 65 psi (4,5 bar)
   14.00 x 24, G-2/L-2 Radial - 1 Star ..... 70 psi (4,8 bar)
   14.00 x 24, G-3/L-3 Bias Ply Rock - 12 Ply ..... 70 psi (4,8 bar)
5. Replace valve stem cap.

B. Tire Damage

For pneumatic tires, when any cut, rip or tear is discovered that exposes sidewall or tread area cords in the tire, measures be taken to remove the product from service immediately. Arrangements must be made for replacement of the tire or tire assembly.

For polyurethane foam filled tires, when any of the following are discovered, measures must be taken to remove the product from service immediately. Arrangements must be made for replacement of the tire or tire assembly.

- a smooth even cut through the cord piles which exceeds 3 in (7,5 cm) in total length.
- any tears or rips (ragged edges) in the cord plies which exceeds 1 in (2,5 cm) in any direction
- any punctures which exceed 1 in (2,5 cm) in diameter.

If a tire is damaged but within the above noted criteria, the tire must be inspected daily to ensure the damage has not propagated beyond the allowable criteria.

C. Tire and Wheel Replacement

It is recommended that a replacement tire to be the same size, ply and brand as originally installed. Refer to the appropriate parts manual for ordering information. If not using an approved replacement tire, the replacement tires must have the following characteristics:

- Equal or greater ply/load rating and size of original.
- Tire tread contact width equal or greater than original.
- Wheel diameter, width and offset dimensions equal to the original.
- Approved for the application by the tire manufacturer (including inflation pressure and maximum tire load).

Unless specifically approved by JLG, do not replace a foam filled or ballast filled tire assembly with a pneumatic tire. Due to size variations between tire brands, when selecting and installing a replacement tire ensure both tires on the axle are the same.

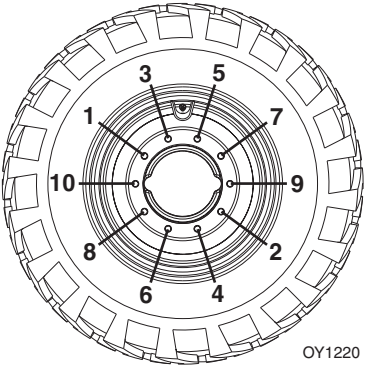
The rims installed have been designed for stability requirements which consist of track width, tire pressure and load capacity. Size changes such as rim width, center piece location, larger or smaller diameter, etc., without written factory recommendations, may result in unsafe condition regarding stability.

E. Wheel Installation

Torque lug nuts before first use and after each wheel removal.

Note: *If machine is equipped with directional tire assemblies, the wheel and tire assemblies must be installed with the directional tread pattern "arrows" facing in the direction of forward travel.*

1. Start all nuts by hand to prevent cross threading. DO NOT use a lubricant on threads or nuts.
2. Tighten lug nuts in an alternating pattern as indicated in figure. Torque to 350-400 lb-ft (475-542 Nm).



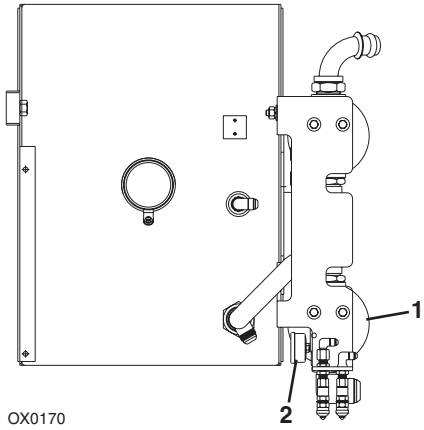
⚠ WARNING

TIP OVER HAZARD. Lug nuts must be installed and maintained at the proper torque to prevent loose wheels, broken studs and possible separation of wheel from the axle.

Hydraulic Return Filter

A. Hydraulic Return Filter Indicator Check

10 OW0970 OW1060



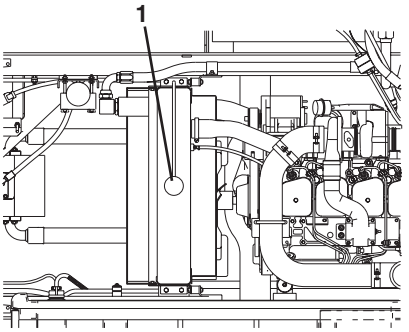
1. Apply park brake, shift transmission to "Neutral" and lower forks or attachment to horizontal position.
2. Check hydraulic return filter indicator with engine at normal operating temperature.
3. Have an assistant open the tank cover.
4. With the engine at full throttle and the assistant observing the indicator (**2**) located on the hydraulic return filter (**1**), extend and retract the boom 10 to 12 ft (3,0 to 3,7 m). The bar gauge should be within the green area.
5. Replace filter before the gauge reaches the red area on the indicator. If it reaches the red area, the filter is too dirty and hydraulic oil is bypassing the filter.
6. Close and secure the tank cover.

Engine Cooling System

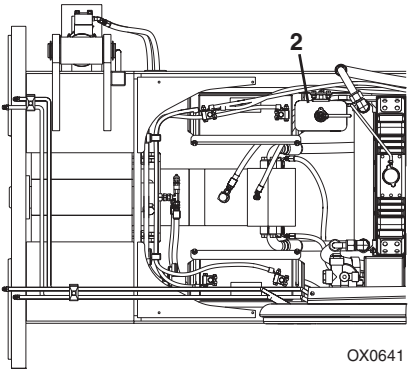
A. Engine Coolant Level Check

50 OW0980 OW1070

JOHN DEERE ENGINE



CUMMINS ENGINE



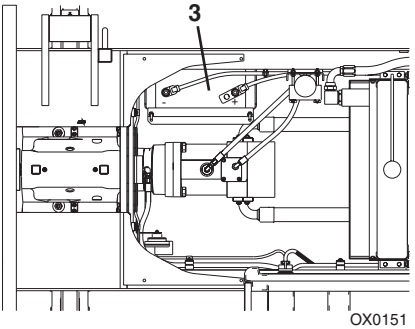
1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Open the engine cover.
3. John Deere - When coolant is cool, remove cap (**1**). Check coolant level in radiator.
   Cummins - Check coolant level in overflow bottle (**2**). When coolant is hot, bottle should be 1/2 to 3/4 full. When coolant is cool, bottle should be 1/4 to 1/2 full.
4. If coolant is low, add coolant (50/50 mixture of ethylene glycol and water) as required.
5. Replace cap.
6. Close and secure the engine cover.

Battery

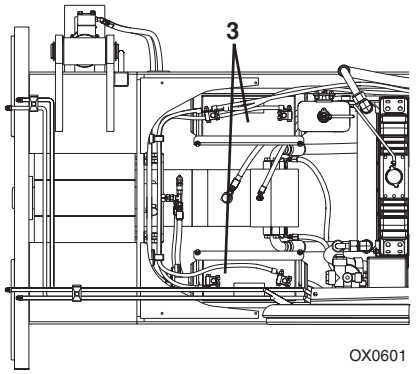
A. Battery Check

50 OW0980 OW1080

JOHN DEERE ENGINE



CUMMINS ENGINE



1. Perform *"Shut-Down Procedure"* on page 4-4.
2. Remove the front cover.
3. Wearing eye protection, visually inspect the battery (**3**). Check terminals for corrosion. Replace battery if it has a cracked, melted or damaged case.
4. Replace the front cover.

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SECTION 8 - ADDITIONAL CHECKS

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SECTION 9 - SPECIFICATIONS

9.1 PRODUCT SPECIFICATIONS

Fluid and Lubrication Capacities

Engine Crankcase Oil

Capacity with Filter Change
- John Deere Engine ..... 15.5 quarts (14,7 liters)
- Cummins Engine ..... 13.7 quarts (13 liters)

Type of Oil ..... 15W-40 CD

Fuel Tank

Capacity ..... 40 gallons (151,4 liters)

Type of Fuel ..... #2 Diesel

Cooling System

System Capacity
- John Deere Engine ..... 24.8 quarts (23,5 liters)
- Cummins Engine ..... 22 quarts (20,8 liters)

Type of Coolant ..... 50/50 ethylene glycol & water

Hydraulic System

System Capacity ..... 50 gallons (189 liters)

Reservoir Capacity to Full Mark ..... 30 gallons (113,5 liters)

Type of Oil ..... Mobilfluid® 424 Tractor Hydraulic Fluid (ISO 46)

Axles

Housing Capacity (Front Axle) ..... 16.5 quarts (15,6 liters)

Hub Capacity (Front and Rear Axle) ..... 1.5 quarts (1,4 liters)

Type of Fluid ..... Mobilfluid® 424 Tractor Hydraulic Fluid (ISO 46)

Tires

14.00 x 24, G-2/L-2 Bias-Ply Traction - 12 Ply
- Pneumatic ..... 65 psi (4,5 bar)
- Water and Calcium Chloride ..... Approx 623 lb (283 kg)
- Foam ..... Approx 720 lb (327 kg)

14.00 x 24, G-2/L-2 Radial - 1 Star
- Pneumatic ..... 70 psi (4,8 bar)
- Water and Calcium Chloride ..... Approx 623 lb (283 kg)
- Foam ..... Approx 720 lb (327 kg)

14.00 x 24, G-3/L-3 Bias Ply Rock - 12 Ply
- Pneumatic ..... 70 psi (4,8 bar)
- Water and Calcium Chloride ..... Approx 623 lb (283 kg)
- Foam ..... Approx 720 lb (327 kg)

Wheel Lug Nut

Torque ..... 350-400 lb-ft (475-543 Nm)

Performance

Maximum Lift Capacity ..... 10,000 lb (4536 kg)

Maximum Lift Height ..... 55 ft (16,8 m)

Capacity at Maximum Height
- Outriggers Engaged ..... 5,000 lb (2268 kg)
- Outriggers Not Engaged ..... 4,000 lb (1814 kg)

Maximum Forward Reach ..... 42 ft (12,8 m)

Capacity at Maximum Forward Reach
- Outriggers Engaged
  - Before S/N 0160037689 ..... 3,000 lb (1361 kg)
  - S/N 0160037689 & After ..... 2,400 lb (1089 kg)
- Outriggers Not Engaged ..... 0 lb (0 kg)

Reach at Maximum Height ..... 8.5 ft (2,6 m)

Maximum Travel Speed ..... 19 mph (30.6 kmph)

Towing Capacity ..... 10,000 lb (4536 kg)

Frame Leveling ..... 8 degrees

Maximum Travel Grade
- Gradeability 45%
- Side Slope 8.75%

Dimensions

Overall Height ..... 98 in (2489 mm)

Overall Width ..... 98.8 in (2510 mm)

Cab Width ..... 32.7 in (831 mm)

Track Width ..... 83 in (2108 mm)

Wheelbase ..... 135 in (3429 mm)

Length at Front Wheels ..... 189.6 in (4816 mm)

Overall Length (less Forks) ..... 241.3 in (6129 mm)

Ground Clearance ..... 20.8 in (528 mm)

Outside Turning Radius ..... 175 in (4445 mm)

Maximum Gross Vehicle Weight (no attachment) ..... 33,779 lb (15.322 kg)

Maximum Front Axle Weight (no attachment)
(boom level and fully retracted) ..... 17,058 lb (7737 kg)

Maximum Rear Axle Weight (no attachment)
(boom level and fully retracted) ..... 16,721 lb (7585 kg)

Maximum Ground Bearing Pressure ..... 177 lb/in^2 (12,4 kg/cm^2)

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Serial Number _____

Date	Comments

Inspection, Maintenance and Repair Log

Date	Comments

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TRANSFER OF OWNERSHIP

To Product Owner:

If you now own but ARE NOT the original purchaser of the product covered by this manual, we would like to know who you are. For the purpose of receiving safety-related bulletins, it is very important to keep JLG Industries, Inc. updated with the current ownership of all JLG products. JLG maintains owner information for each JLG product and uses this information in cases where owner notification is necessary.

Please use this form to provide JLG with updated information with regard to the current ownership of JLG products. Please return completed form to the JLG Product Safety & Reliability Department via facsimile or mail to address as specified below.

Thank You,
Product Safety & Reliability Department
JLG Industries, Inc.
13224 Fountainhead Plaza
Hagerstown, MD 21742
USA
Telephone: +1-717-485-6591
Fax: +1-301-745-3713

NOTE: Leased or rented units should not be included on this form.

Mfg. Model: _____

Serial Number: _____

Previous Owner: _____

Address: _____

_____

Country: _____ **Telephone: (_____)** _____

Date of Transfer: _____

Current Owner: _____

Address: _____

_____

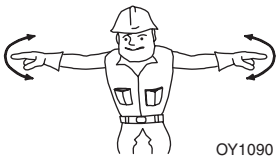
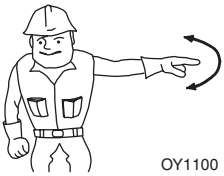
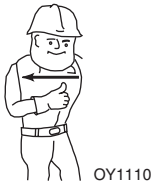
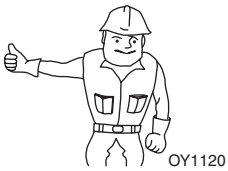
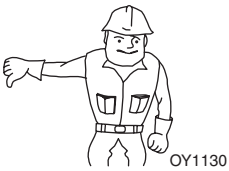
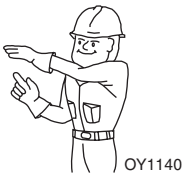
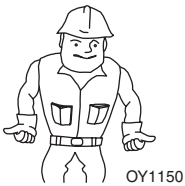
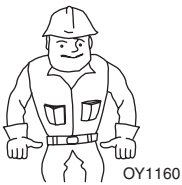
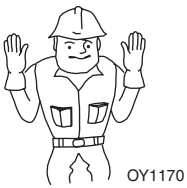
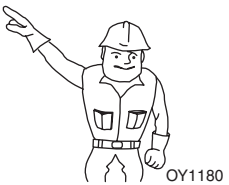
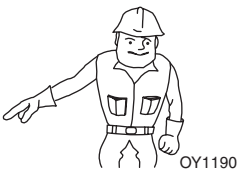
Country: _____ **Telephone: (_____)** _____

Who in your organization should we notify?

Name: _____

Title: _____

Hand Signals

 OY1090 EMERGENCY STOP - With both arms extended laterally, hands open downward, move arms back and forth.	 OY1100 STOP - With either arm extended laterally, hand open downward, move arm back and forth.	 OY1110 STOP ENGINE - Draw thumb or forefinger across throat.
 OY1120 RAISE BOOM - With either arm extended horizontally, fingers closed, point thumb upward.	 OY1130 LOWER BOOM - With either arm extended horizontally, fingers closed, point thumb downward.	 OY1140 MOVE SLOWLY - Place one hand motionless in front of hand giving motion signal. (Raise load slowly shown)
 OY1150 EXTEND BOOM - With both hands clenched, point thumbs outward.	 OY1160 RETRACT BOOM - With both hands clenched, point thumbs inward.	 OY1170 THIS FAR TO GO - With hands raised and open inward, move hands laterally, indicating distance to go.
 OY1180 TILT FORKS UP - With one arm held at side, extend other arm upward at about 45 degrees.	 OY1190 TILT FORKS DOWN - With one arm held at side, extend other arm downward at about 45 degrees.	

Special Signals - When signals for auxiliary equipment functions or conditions not covered are required, they shall be agreed upon in advance by the operator and signalman.

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